COUNTY OF ORANGE

PUBLIC FACILITIES & RESOURCES DEPARTMENT

REPORT OF WASTE DISCHARGE
Volume 2 of 2

PROPOSED PLAN
DRAFT DRAINAGE AREA MANAGEMENT PLAN
Second Edition

September 2000

(Revision to First Edition Dated April 1993)

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APPENDICES

ACRONYMS

AB	Assembly Bill
APWA	American Public Works Association
BIA	Building Industry Association
BMP	Best Management Practice
CAP	Household Hazardous Waste Community Awareness Program
CAR	Critical Aquatic Resources
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
DAMP	Drainage Area Management Plan
EPA	Environmental Protection Agency
IWMD	Integrated Waste Management Department
MEP	Maximum Extent Practicable
NPDES	National Pollutant Discharge Elimination System
OC	County of Orange
OCC	Orange County Code
ROWD	Report of Waste Discharge
SCAG	Southern California Association of Governments
SCCWRP	Southern California Coastal Waters Research Program
SIC	Standard Industrial Classification Code
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Technical Advisory Committee
TMDL	Total Maximum Daily Load
WQMP	Water Quality Management Plan
WSPA	Western States Petroleum Association

GLOSSARY

1993 DAMP

A document required under the First Term Permits issued by the Santa Ana and San Diego Regional Boards. This document is the principal policy and guidance document for the countywide NPDES Stormwater Program

2000 DAMP

An updated version of the 1993 DAMP. Submitted in draft form as the proposed plan for the 2000 Report of Waste Discharge submittal.

Annual Status Reports

The NPDES Permits require the submittal of an Annual Status Report to the Regional Board and EPA on November 15th of each year.

Best Management Practice

Best practical and economically achievable measures to control the addition of pollutants to the waters of the United States through the application of pollution control practices, technologies, processes, siting criteria, operating methods, or other alternatives.

Clean Water Act and Amendments

The Federal Pollution Control Act (Public Law 92-500), as amended (33 U.S.C. 1251 et seq.). Federal regulation mandating a National Pollutant Discharge Elimination System permit for discharges into the Waters of the United States. The goals of the act are to restore and maintain the chemical, physical and biological integrity of the nation's waters.

First Term Permits

The Regional Boards issued Municipal Stormwater Permits No. CA 8000180 and No. CA 0108740 to the Permittees in 1991for the period from 1991 – 1996.

General Construction Permit

The NPDES general permit for stormwater discharges associated with construction activity. SWRCB Order No. 99-08 DWQ, NPDES General Permit No. CAS000002 or its subsequent replacement.

General Industrial Permit

The NPDES general permit for stormwater discharges associated with industrial activity. SWRCB Order No. 97-03 DWQ, NPDES General Permit No. CAS000001 or its subsequent replacement.

GLOSSARY (cont'd)

Illegal Discharge

Any discharge to a municipal separate storm sewer that is not composed entirely of stormwater and that is not covered by an NPDES permit or identified in the NPDES Stormwater permit as an allowed discharge.

Illicit Connection

Any man –made conveyance or drainage system, pipeline, conduit, inlet or outlet, through which the discharge of any pollutant to the stormwater drainage system occurs or may occur.

Implementation Agreement

The agreement underpinning County and city cooperation and which establishes the responsibilities of each Permittee and a funding mechanism for the shared costs of the Program.

Maximum Extent Practicable

To the maximum extent possible, taking into account equitable consideration of synergistic, additive and competing factors; including, but not limited to, gravity of the problem, fiscal feasibility, public health risks, societal concerns and social benefits.

National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater Permit

A provision of the CWA, section 402, that identifies municipal stormwater as a point source subject to regulation under the NPDES Permits.

NPDES Stormwater Program

The program designed by the Orange County Permittees for compliance with the NPDES permits.

Permittees

The cities of Anaheim, Brea, Buena Park, Costa Mesa, Cypress, Dana Point, FountainValley, Fullerton, Garden Grove, Huntington Beach, Irvine, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, La Habra, La Palma, Lake Forest, Los Alamitos, Mission Viejo, Newport Beach, Orange, Placentia, Rancho Santa Margarita, San Clemente, San Juan Capistrano, Santa Ana, Seal Beach, Stanton, Tustin, Villa Park, Westminster, and Yorba Linda; the County of Orange; and the Orange County Flood Control District and any subsequently incorporated cities that become subject to the NPDES permit. Each Permittee is individually responsible for the implementation of the program elements within its jurisdiction.

Permittee Committee

The committee made up of representatives from each of the Permittees that provides the overall guidance for the NPDES Stormwater Program.

Point Source

Any discernable, confined, and discrete conveyance, including any conduit pipe, ditch, channel, sewer, tunnel, vessel, or other floating craft from which pollutants are or may be discharged.

Principal Permittee

The County of Orange is the Permittee designated with the responsibility to manage the NPDES Municipal Stormwater Program on behalf of the Permittees.

Regional Water Quality Control Boards

The Santa Ana and San Diego Regional Water Quality Control Boards are agencies that implement and enforce Clean Water Act Section 402(p) NPDES permit requirements, and are issuers and administrators of these permits on behalf of EPA within Orange County.

Report of Waste Discharge

Constitutes the application to the RWQCB for the Third Term NPDES permit. The ROWD presents the compilation of data from the current and previous permit terms and describes the proposed plan for future activities.

Santa Ana Board

The Regional Board that issues the NPDES Municipal Stormwater Permit for Orange County from the northern Los Angeles County border down to approximately El Toro Road. Its jurisdiction includes the cities of Anaheim, Brea, Buena Park , Costa Mesa, Cypress, Fountain Valley, Fullerton, Garden Grove, Huntington Beach, Irvine, La Habra, La Palma, Lake Forest, Los Alamitos, Newport Beach, Orange, Placentia, Santa Ana, Seal Beach, Stanton, Tustin, Villa Park, Westminster, and Yorba Linda.

San Diego Board

The Regional Board that issues the NPDES Municipal Stormwater Permit for Orange County from approximately El Toro Road down south to the San Diego County border. Its jurisdiction includes the cities of Dana Point, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Mission Viejo, Rancho Santa Margarita, San Clemente and San Juan Capistrano.

Second Term Permits

The Regional Boards re-issued the Municipal NPDES Stormwater Permits in 1996 Santa Ana Region CAS0108740 and San Diego Region CAS618030, which covered the time period from 1996-2001.

State Water Resources Control Board

State agency that sets statewide policy for the nine Regional Water Quality Control Boards.

Total Maximum Daily Loads (TMDL)

A written, quantitative plan and analysis for attaining and maintaining water quality standards in all seasons for a specific waterbody and pollutant.

Third Term Permits

The Regional Boards will re-issue the NPDES Stormwater Permits in 2001. They will cover the time period from 2001-2006.

Water Quality Planning Process

Systematic and detailed evaluation of the impacts of urban water quality on beneficial uses to determine or validate that actual impairments exist that warrant corrective action.

EXECUTIVE SUMMARY

This document details the Drainage Area Management Plan (DAMP) to be implemented by the County of Orange, Orange County Flood Control District and incorporated cities (Permittees). The 1993 DAMP was updated in order to reflect the current status of the NPDES Stormwater Program within Orange County as well as to provide the future direction to the program for the Third Term Permit (2001-2006).

Since the DAMP is the result of a comprehensive planning process it will continue to undergo revision as new information, particularly water quality data, becomes available. Through this DAMP, the Permittees intend to continue to improve existing stormwater quality management practices and, where necessary, to address identified problems and to implement new practices.

The DAMP revision has been formulated with the following objectives in mind:

- Address the requirements of the Second Term Permits and commitments of the 1994 Report of Waste Discharge;
- Provide the future direction for the program for the Third Term Permit;
- Ensure effective public participation and support;
- Focus on problems identified through monitoring;
- Utilize available resources effectively;
- Implement public education as a central program component;
- Detect and eliminate illicit connections/illegal discharges;
- Evaluate opportunities and implement projects for retrofitting existing structures as identified through the watershed planning process;
- Verify Best Management Practices (BMPs) designs and effectiveness through experience, research and demonstration projects; and
- Develop plans on a watershed basis.

Private and public sector representatives participated in developing the stormwater pollutant control programs described within this DAMP. Throughout the DAMP's evolution, the document will be available for public review and comment. Overall program guidance will be provided by the Permittees.

1.0 INTRODUCTION

This document outlines Orange County's Drainage Area Management Plan (DAMP) to be implemented during the Third Term Permit period (2001 – 2006) by the cities of Anaheim, Brea, Buena Park, Costa Mesa, Cypress, Dana Point, Fountain Valley, Fullerton, Garden Grove, Huntington Beach, Irvine, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, La Habra, La Palma, Lake Forest, Los Alamitos, Mission Viejo, Newport Beach, Orange, Placentia, Rancho Santa Margarita, San Clemente, San Juan Capistrano, Santa Ana, Seal Beach, Stanton, Tustin, Villa Park, Westminster, and Yorba Linda; the County of Orange; and the Orange County Flood Control District within the Orange County storm water drainage system. Any newly incorporated cities and other agencies will be included in the implementation process if they choose to participate in the Orange County Municipal National Pollutant Discharge Elimination System Stormwater Program (subsequently referred to as the NPDES Stormwater Program).

The stormwater pollution control effort, of which this DAMP is a part, is the result of almost thirty years of legislative effort beginning with the 1972 Federal Water Pollution Control Act, subsequently known as the Clean Water Act (CWA). The CWA established the NPDES Stormwater Program and required the Environmental Protection Agency (EPA) to issue regulations to be effective by 1983 that include stormwater runoff from rainfall.

Due to court decisions and the overriding need to address stormwater, Congress passed a Clean Water Act Amendment in 1987, the Water Quality Act, which brought stormwater discharges into the NPDES Program. Subsequent regulations were issued by EPA on November 16, 1990.

In response to those regulations, in 1990 the County of Orange (subsequently singularly referred to as the Principal Permittee), the Orange County Flood Control District and incorporated cities (all three collectively referred to as Permittees) obtained NPDES Stormwater Permits No. CA 8000180 and No. CA 0108740 (subsequently referred to as the First Term Permits) from the Santa Ana and San Diego Regional Water Quality Control Boards (subsequently referred to as the Santa Ana Board, the San Diego Board or collectively as the Regional Boards). In 1996, the First Term Permits were replaced by Permit Nos. CAS0108740 and CAS618030 (subsequently referred to as the Second Term Permits).

The April 1993 version of the DAMP (subsequently referred to as 1993 DAMP) was prepared in compliance with the specific requirements of the First Term Permit. The September 2000 update of the DAMP (subsequently referred to as 2000 DAMP) has been completed to address the requirements of the Second Term Permits, and to incorporate the programs developed since 1993. The plan proposes a wide range of continuing and enhanced Best Management Practices (BMPs) and control techniques, which will be implemented over the upcoming 2001 – 2006 permit period (subsequently referred to as the Third Term Permit).

The non-topographic boundary between Orange County and adjoining counties could result in certain Permittees being subjected to flows originating from areas that are subject to separate NPDES municipal stormwater permits issued by the Regional Boards. This DAMP is applicable only to stormwater permits issued by the Regional Boards for areas of Orange County, although certain Permittees could be impacted adversely by flows from drainage areas from neighboring counties (Section 2.2.8). The common drainage issues with Orange, Riverside and San Bernardino counties have begun to be addressed during the Second Term Permit period through joint participation in integrated monitoring and research programs (Section 11.3.3).

1.1 Description of Drainage Area and Climate

Orange County has an area of 500,000 acres, beginning on a coastal plain and rising to an elevation of over 5,000 feet in the Puente Hills and Santa Ana Mountains to the north and east. Before urbanization, which began in the early 1950's, Orange County was drained by ephemeral streams and agricultural drainage ditches which were dry most of the year and carried measurable flow primarily during short duration flash floods and longer duration general winter storms.

As urbanization progressed, man-made agricultural drainage ditches were enlarged to flood control channels and the few natural streams such as Santa Ana River, San Diego Creek and San Juan Creek were constrained within levees to provide flood protection. Ephemeral flows in some of the man-made and natural channels have been replaced with continuous low flows from urban and agricultural irrigation.

Orange County's climate has hot dry summers and mild winters. Nearly all the annual precipitation falls in only a few storm events between October and April. During times of drought, it is not unusual for years to pass between major rainfalls. Precipitation results from three distinct mechanisms. The most important is the convergence mechanism associated with general winter storms originating in Alaska and picking up moisture as they travel south and east.

The second major precipitation mechanism is orographic lifting where moist air masses are deflected upward by local mountains, releasing rain. Orographic rainfall is also associated with winter rainfall. The third precipitation mechanism, which can cause extremely intense local precipitation, is the convective thunderstorm. One of the most intense convective rainfall events of record in Southern California dropped 11 inches of rainfall in about 80 minutes. On occasion, unstable tropical air masses move in from the south and produce rainfall. These tropical air masses combine convergence mechanisms with convective mechanisms to produce intense thunderstorms.

It is common for successive storms of varying durations and intensities to compound their effects, with the heavy rainfall of the second or third storm creating the most severe flood conditions. Regardless of the source of precipitation, Orange County only receives an average of 12-13" of rain per year. The present urban and former agricultural lifestyles are made possible only by large quantities of water imported from the Colorado River and Northern California.

Commencing in 99/00 the Permittees report annually on the land use types and percentages of each type within their jurisdiction**.**

1.2 Regulatory Requirements

Section 402(p) of the CWA, as amended by the Water Quality Act of 1987, required that municipal NPDES Permits include:

1. A requirement to effectively prohibit non-storm water discharges into the storm sewer; and

2. Controls to reduce the discharge of pollutants in storm water discharges to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

Regulations, promulgated by EPA on November 16, 1990 (40 CFR 122.26 (d)(2)(iv)) required municipal NPDES Permit applicants to develop a management program to effectively address these requirements.

The federal regulations also indicate that the proposed management program such as the DAMP "shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and systems, design and engineering methods, and such other provisions which are appropriate".

The First Term Permit similarly required the development of a management program to address the regulatory requirements and defined "maximum extent practicable" as follows:

> "Maximum extent practicable (MEP) means to the maximum extent possible, taking into account equitable considerations of synergistic, additive, and competing factors, including but not limited to, gravity of the problem, fiscal feasibility, public health risks, societal concern, and social benefits."

This definition set the foundation for the NPDES Stormwater Program and places upon the Permittees the continuing responsibility of weighing economic, societal, and equity issues as they define the policies and standards to be employed in implementing the program.

1.3 Objectives of the Drainage Area Management Plan

The main objectives of the DAMP are to fulfill the commitment of the Permittees to present a plan that satisfies NPDES permit requirements and to evaluate the impacts of urban stormwater quality on the beneficial uses.

There are a number of important public policy issues which have influenced the Permittees in framing this DAMP and which consequently define the objectives. Resources, both public and private, are limited and public support is essential. In implementing this program it is the intent of the Permittees to proceed in a measured, deliberate way designed to obtain the maximum benefit for the resources expended and to secure maximum public awareness, understanding and support.

The Permittees are aware that a successful stormwater quality management program depends on the awareness, commitment, cooperation and support of the various segments of the public, including businesses, industry, development, utilities, environmental groups, institutions, homeowners and the general public. Accordingly, it is a continuing objective of the plan to assure an open planning process, with ample opportunity for public participation and meaningful consideration of the input obtained. Accomplishment of this objective will be furthered by the management structure provided herein and by public meetings, hearings, workshops as part of the planning and decision making process.

The Permittees are committed to implementing a strategic and comprehensive public education program as a central program component in order to continue to raise the level of public awareness and, at the same time, improve the protection of urban stormwater quality.

The Permittees are committed to maintaining the integrity of the receiving waters and their ability to sustain beneficial uses. As such, the Permittees have designed and implemented a countywide baseline stormwater management program in order to be able to continually re-assess the conditions of the waters within Orange County and help determine the impact, if any, of urban stormwater quality to those beneficial uses.

This baseline effort is complimented by the water quality planning initiative efforts, which focus resources on the impacts of urban stormwater on beneficial uses, to assure that problems receive the available resources and attention. The Permittees have begun to prioritize these initiatives (Section 3.3.1 and 11.4) and will continue to analyze and evaluate the existing and future baseline monitoring program data to identify those watersheds exhibiting the most urgent need for attention.

The Permittees presently own and operate an extensive system of flood control, drainage, recreational, habitat and greenbelt corridor facilities. Some of these have already been modified to yield regional water quality benefits while still safely and reliably performing their primary function. The Permittees will continue to evaluate opportunities to incorporate stormwater quality features into existing flood control structures in each Orange County watershed as they are designed and/or identified through the water quality planning process (Section 3.3.1).

The Permittees have considerable experience and expertise in the planning, design and operation of flood control and drainage systems. They are familiar with the regional watershed approach to drainage planning and they are aware of the economic benefit of regional flood control facilities. The Permittees will continue to approach the runoff water quality management program on the same regional watershed basis, guided by the priorities as identified through the water quality monitoring program.

Research, technical and engineering design data indicate that pollution prevention and removal design parameters for stormwater are still in a developmental phase. The Permittees will continue to investigate and verify the effectiveness of the various treatment BMP designs through experience, research and demonstration projects.

The Permittees will continue to vigorously detect and eliminate illegal discharges and illicit connections into the storm drain system.

Since the majority of the aquatic resources within Orange County are in marine or estuarine habitats, the Permittees are committed to participating in various regional research and/or monitoring programs which provide unique opportunities to gather valuable information about the impact on these habitats and place them in a larger regional context.

The 2000 DAMP is the principal policy and guidance document for the countywide NPDES Stormwater Program. The DAMP describes the programs that will serve to:

1. Provide the framework for the program management activities and plan development (Section 2.0 and Section 3.0);

2. Provide the legal authority for prohibiting unpermitted discharges to the storm drain system and for requiring BMPs in new development and significant redevelopment (Section 4.0);

3. Improve existing pollution prevention and removal BMPs to further reduce the amount of pollutants entering the storm drain system. (Section 5.0);

4. Educate the public about the issue of urban stormwater and non-stormwater pollution and obtain their support in implementing pollution prevention BMPs (Section 6.0);

5. Ensure that all new development and significant redevelopment incorporates appropriate post construction nonstructural and structural BMPs and evaluate "special" structural BMPs to address specific water quality problems as identified through the water quality planning process. (Section 7.0);

6. Ensure that construction sites implement pollutant control practices that address control of construction related pollutants including erosion and sediment control and on-site hazardous materials and waste management (Section 8.0);

7. Identify industrial stormwater dischargers in Orange County and notify them of State Industrial stormwater permit requirements (Section 9.0);

8. Detect and eliminate unpermitted discharges and illegal connections to the municipal storm drain system (Section 10.0);

9. Conduct a stormwater monitoring program to identify areas with water quality problems, to assist in the prioritization of watersheds for analysis and planning, and to assist in the prioritization of pollutants to facilitate the development of specific controls to address these problems (Section 11.0); and

10. Address the special focus within the Newport Bay/San Diego Creek watershed due to its impaired status and the resulting development of TMDLs for sediment, nutrients, bacteria and toxics (Section 12.0).

1.4 Development of the DAMP

The federal regulations (40 CFR 122.26 (d)(2)(iv)(A-D)) require the implementation and maintenance of control measures to reduce pollutants from runoff or urban stormwater discharges from the following areas:

- Runoff from commercial and residential areas;
- Runoff from industrial sites;
- Runoff from construction sites; and
- Non-storm water discharges.

According to the regulations, an overall drainage area management program shall include a comprehensive planning process incorporating public participation and intergovernmental cooperation. The drainage area management program shall also meet the MEP standard of pollutant control, describe priorities for implementing controls on a system wide basis, watershed basis, jurisdiction basis, or on individual outfalls.

The resulting DAMP incorporates a wide range of BMPs, which have been implemented and reported on since the inception of the program in 1990. This section describes the emphasis and development of the NPDES Stormwater Program during each permit term and defines:

- The BMPs that were developed and implemented during the First Term Permit;
- The BMPs that were developed and implemented during the Second Term Permit; and
- The BMPs with ongoing implementation and expanded emphasis during the Third Term Permit.

The BMPs that are listed below include a reference to the section in the DAMP that provides the basis for that activity and where it is further described.

1.4.1 First Term Permit: DAMP Emphasis and Accomplishments

The 1993 DAMP defined a management structure for the Permittees' compliance effort, a formal agreement to underpin cooperation, and detailed municipal efforts to develop, implement, and evaluate various BMPs.

The DAMP was formulated using the accepted framework for water quality planning, specifically, a systematic and iterative process of defining goals, assessing existing conditions, setting priorities, selecting near-term BMPs, implementing near-term program, and assessing program effectiveness. The First Term Permit schedule for completing this process reflected the congressional expectation of expeditious program implementation and was completed in two years resulting in the 1993 DAMP.

The overriding objective of DAMP development was compliance with the federal requirements and the schedule of the NPDES permits. The DAMP was thus the product of an abbreviated water quality planning effort, and control program elements were selected based upon the review of literature and other non-point source control initiatives, rather than an understanding of identified water quality problems.

The specific DAMP accomplishments achieved during the First Term Permit include the following programs which were developed and subsequently implemented. The references at the end of each item refer to the 2000 DAMP unless otherwise noted.

1. Establishment of program management structure and adoption and revision of the Implementation Agreement (Section 2.0 and Appendix C and D);
2. Development of Model Water Quality Ordinance and Enforcement Consistency Guide (Section 4.0 and Appendix E);
3. Development of a Water Pollution Enforcement Implementation Plan (1993 DAMP Appendix E);
4. Development of public agency activity BMP program (Section 5.0);

5. Evaluation of existing litter regulations (Section 5.3.1);
6. Evaluation of existing street sweeping schedules (Section 5.3.5);
7. Development of common public pesticide and fertilizer use guidelines (Section 5.3.9 and **Appendix F**);
8. Development of recommended and extended conditions of approval for BMPs for new development and significant redevelopment and industrial/commercial construction sites of 1-5 acres and initial training of County and city staff in same (Section 7.2 and **Appendix G**). The measures consist of:
    a) Non-structural and structural BMPs on specified new development and significant redevelopment;
    b) Special notes on grading and building plans for industrial/commercial construction operations (1-5 acres); and
    c) Proof of coverage by State General Construction Permit(s) for private grading and building permit applicants (>5 acres);
9. Development and conductance of a workshop for development industry on **Appendix G** implementation (Section 7.2 and **Appendix G**);
10. Development of recommended BMPs for public works construction and initial training of County and city staff in same (Section 8.0 and **Appendix H**). The measures consist of:
    a) Use of "Standard Specifications for Public Works Construction" (the "Green Book") provisions as base-line standards for public new construction less than 5 acres; and
    b) SWPPPs on public new construction and ground surface alteration (>5 acres);
11. Completion of industrial discharger notification (Section 9.3 and **Appendix I**);
12. Development of criteria and conductance of inspections of the separate municipal storm drain systems to identify and eliminate all illegal or illicit storm drain connections. (Section 10.4.1 and **Appendix J**); and
13. Development of a water quality monitoring program (Section 11.0 and 1993 DAMP Appendix K).

1.4.2 Second Term Permit: DAMP Emphasis and Accomplishments

The program management structure and the BMPs developed during the First Term Permit and subsequently incorporated into the 1993 DAMP were the basis of the compliance effort during the Second Term Permit period. In addition, the Permittees also initiated several water quality planning efforts in the Talbert/Lower Santa Ana River, Newport Bay and Aliso Creek watersheds. These priority water quality planning initiatives have helped identify and better understand site-specific urban water quality problems in Newport Bay (nutrients) and Aliso Creek (bacteria) and Talbert/Lower Santa Ana River (bacteria). The Permittees intend to bring the experience that is gained from these initiatives to other watersheds based on a rolling priority list.

Through the ongoing implementation of the DAMP and the initiation of water quality planning efforts, the Permittees continued to improve existing stormwater quality management practices, identify current water quality problems, implement remedial measures and implement new practices preventing future receiving water quality problems.

The specific DAMP accomplishments achieved during the Second Term Permit period are as follows. The references to the DAMP Sections and/or Appendices correspond to the 2000 DAMP unless otherwise noted.

1. Coordination of activities with other public agencies within and adjacent to Orange County having programs or activities that have an impact on stormwater quality (state and regional transportation agencies, cities, counties, flood control districts, water districts, sanitation districts, etc.) (Section 2.2.9);
2. Modification of existing flood control facilities in order to provide additional water quality benefits. Implemented retrofits include channel stabilization, sediment basins and debris booms (Section 3.2 and Section 12.0);
3. Certification that the Permittees have adopted and are implementing the Water Quality Ordinance and accompanying Enforcement Consistency Guide (Section 4.3 and **Appendix E**);
4. Conductance of investigator training on Model Water Quality Ordinance and Enforcement Consistency Guide (**Appendix E**).
5. Conductance of a review of street sweeper effectiveness studies and provided a recommendation that all Permittees apply a standard of pollutant removal effectiveness to the purchase of any new equipment (Section 5.3.5);
6. Development, implementation and provision of training for an environmental performance reporting program for fixed public facilities (initially those facilities whose operations include hazardous materials storage, waste storage and vehicle and equipment maintenance) (Section 5.3.6);
7. Development of a long term public and business education strategy (Section 6.3.2 and **Appendix L**);
8. Development of BMP guidance for the control of those potentially polluting activities not otherwise regulated by any agency (mobile detailing, automotive service centers, restaurants, pool maintenance activities) (Section 6.3.1);
9. Establishment and promotion of a single phone line for all county public water pollution phone calls (Section 6.3.1);
10. Conductance of a joint outreach program with Orange County Sanitation District, Orange County Health Care Agency and Orange County Integrated Waste Management, to ensure that a consistent message on stormwater pollution prevention is brought to the public (Section 6.3.1);
11. Certification that **Appendix G** was implemented (Section 7.0);
12. Development and conductance of training for city planners on **Appendix G** implementation (Section 7.0 & **Appendix G**);
13. Certification that **Appendix H** was implemented (Section 8.0);
14. Development and conductance of training for grading, building and public works construction inspectors (Section 8.0 & **Appendix H**);

15. Submittal of a report of the findings and schedule for elimination for the detection/elimination of illicit connections (Section 10.4.1);
16. Development of a training program for staff of existing industrial inspection programs (Section 10.3.1);
17. Submittal of an evaluation report to the Regional Water Quality Control Board, Santa Ana Region addressing the urban nutrients in the Newport Bay Watershed (Section 12.0 and **Appendix N**);
18. Participation with neighboring counties in the regional Southern California Coastal Water Research Project (SCCWRP) 1998 Southern California Bight Study (Section 11.3.3); and
19. Completion of a revised water quality monitoring program to meet new monitoring objectives (Section 11.3.3 and **Appendix K**).

1.4.3 Third Term Permit: DAMP Emphasis

During the Third Term Permit period the emphasis of the program will continue to provide for equitable consideration of all DAMP objectives. This consideration involves the use of a strategic framework of water quality planning and BMP investigation and is a systematic and iterative process of:

1. Implementing additional BMPs and revising current BMPs based upon site specific urban water quality problems, technical, institutional and economic feasibility and the protection of beneficial uses of the receiving waters;
2. Monitoring to ensure that the BMPs are correctly applied and to determine BMP effectiveness in achieving water quality standards; and
3. Adjustment of BMPs if water quality standards are not being achieved or possible adjustment of water quality standards if they are not appropriate.

This approach is consistent with the intent of the Permittees to reduce the discharge of pollutants to the MEP and that the 2000 DAMP represents a further step in a comprehensive planning process rather than the culmination (**Figure 1**).

By applying this systematic and iterative process, the Permittees intend to further improve existing urban stormwater quality management practices, better understand water quality problems and implement remedial measures in order to protect the existing water quality as well as problem areas. The comprehensive planning approach for the Third Term Permit period therefore consists of:

- Continuing the effective stormwater control programs already established and implemented during the First and Second Term Permits (Section 1.4.1 and 1.4.2);
- Making revisions to specific BMPs that were developed or implemented during the First and Second Term Permits; and
- Developing additional BMPs and/or expanding the emphasis of current BMPs during the Third Term Permit.

Continuation of First and Second Term BMPs

The BMPs that were developed during the First and Second Term Permits that will be carried forth into the Third Term Permit period are as listed below:

1. Coordination of activities with other public agencies within Orange County having programs or activities that have an impact on urban stormwater quality (state and regional transportation agencies, cities, counties, flood control districts, water districts, sanitation districts, etc.) (Section 2.2.9)
2. Evaluation of existing flood control facilities for modification to provide water quality benefits identified through the water quality planning process (Talbert/Lower Santa Ana River, Newport Bay/San Diego Creek, Aliso Creek watersheds) (Section 3.3.1 and Section 11.4);
3. Implementation of the long term public and business education strategy elements (Section 6.3.2);
4. Development of BMP guidance for the control of those potentially polluting activities from non-fixed facility businesses not otherwise regulated by any agency. These businesses include, but are not limited to, mobile detailers, carpet cleaners, commercial landscapers and general contractors (Section 6.3.2);
5. Evaluation of cost-effective "special" structural BMPs that may help further reduce levels of nutrients and bacteriological indicators as identified by the water quality planning initiatives in the Talbert/Lower Santa Ana River, Newport Bay and Aliso Creek watersheds (Section 7.2 and Section 11.4); and
6. Continuing participation in the Regional Research/Monitoring program that is being conducted with the neighboring counties, SCCWRP and three Southern California Regional Boards (Section 11.3.3)

Program Modifications and BMP Emphasis

Within each section of the DAMP, there is a discussion regarding the development of the program and the foundation of each NPDES Stormwater Program element. In order to develop effective program modifications for the Third Term Permit period, careful consideration was given to the objectives of the program and the relative importance of each element.

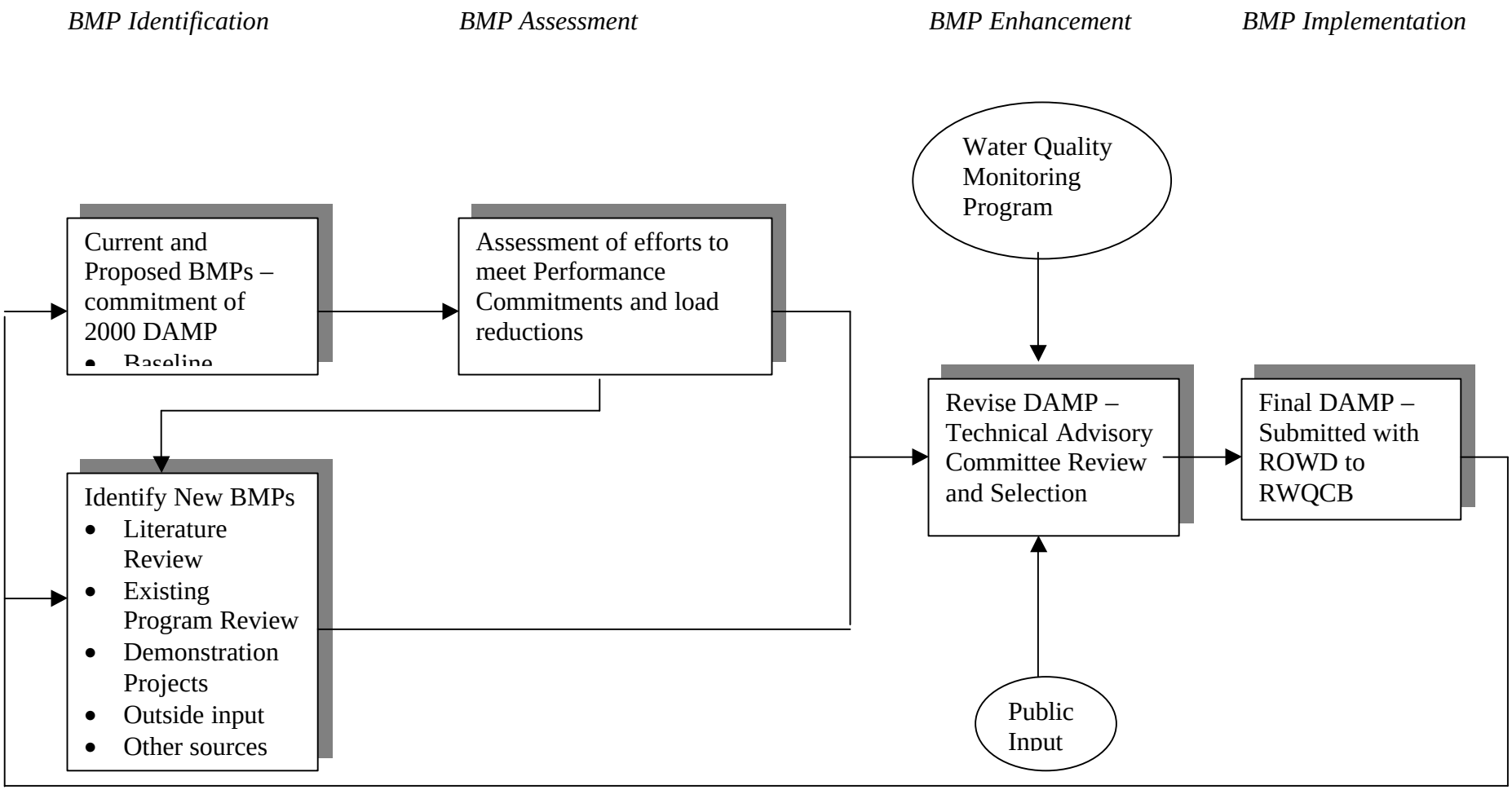
Performance Commitments for each program element were developed and are included within each section of the DAMP to help provide consistency among the programs, define requirements for permit compliance and measure performance. The new or emphasized BMPs and the performance commitments are included at the end of each section. These modifications and commitments are summarized in **Appendix A**. The dates provided within the performance commitments are based upon some elements that may be out of the Permittees' control such as the date of the adoption of the Third Term Permit and the completion of the state BMP manuals. As a result, any necessary modifications to the dates provided herein shall be reported in the Annual Status Reports.

The key performance commitments in the DAMP are:

- An evaluation and revision of the program management structure and Implementation Agreement;
- Systematic watershed assessments to evaluate opportunities to configure or reconfigure channel segments to address the impacts of urban water quality on beneficial uses;
- An evaluation of extending the Environmental Performance Reporting Program into contracts, leases and municipal field operations;
- Formalized training elements;
- The establishment of a public education committee;
- Implementation of the comprehensive public and business education strategy;
- Re-establishment of the New Development Task Force to evaluate the need to revise Appendix G based on the updated California Stormwater BMP Manuals;
- The establishment of a new development/significant redevelopment water quality management plan verification program;
- An evaluation of the need for a Model Erosion Control Ordinance;
- An evaluation of opportunities to outreach to those industrial facilities that need to obtain coverage under the State General Industrial Permit;
- The establishment of authorized inspector quarterly meetings;
- An evaluation of the need to revise the procedures and practices for sewage spill response;
- Future participation in additional regional monitoring and research cooperative programs;
- A re-evaluation and revision of the water quality monitoring program; and
- A modification to the implementation of the Newport Bay/San Diego Creek watershed nutrient program requirements.

Progress and refinement of these modifications and commitments will be reported on in the NPDES Annual Status Reports (subsequently referred to as Annual Status Reports).

Figure 1
Stormwater Program Iterative Process



2.0 PROGRAM MANAGEMENT

2.1 Introduction

The management activities for the NPDES Stormwater Program include providing administrative and technical support for the Permittees and the Technical Advisory Committee (TAC); developing and executing inter-governmental agreements necessary for program implementation; developing reports and other materials required by NPDES permits; developing budgets and fiscal analyses; reviewing and developing policy positions and representing the NDPES Stormwater Program before appropriate agencies; developing BMPs; planning activities needed to direct the program; and program coordination with all affected local government agencies.

A more detailed discussion of these management tasks is provided below. In the Third Term Permit period, annual reporting will additionally include those new commitments in Section 2.3.

2.2 Major Management Activities

2.2.1 Decision Making

During the First and Second Term Permit periods, the designated Permittee representatives provided the overall guidance to the NPDES Stormwater Program, including votes where necessary. During the Third Term Permit period this group will continue to function in the same manner, and will subsequently be referred to as the Permittee Committee. This Committee shall periodically evaluate the need for creating standing sub-committees and ad hoc committees required to accomplish the objectives of the NPDES Stormwater Program.

The Technical Advisory Committee (TAC) will continue as a standing sub-committee for policy direction, program development and implementation. During the first two permit terms, the TAC was comprised of one City Engineer, or selected representative, from each of the County Supervisorial Districts and a representative from the County of Orange.

During the Third Term Permit period, the role and membership of the TAC will be evaluated to determine whether the policy and technical advisory functions should be separated or whether additional membership is required to maintain this dual function. A revised structure may better serve the specific water quality and compliance needs of the Permittees and meet the elevated expectations of water quality improvement in Orange County.

Administrative support for these committees will be provided by the Principal Permittee. This includes the maintenance of mailing lists of participating and interested parties, reserving meeting venues, preparing agendas and notifying participants and preparing meeting minutes.

The Principal Permittee has a Stormwater Section that coordinates the countywide compliance activities and submittals to the Regional Water Quality Control Boards under direction of the Permittees.

2.2.2 Agreement For Program Implementation

The agreement underpinning County and city cooperation is the NPDES Stormwater Permit Implementation Agreement (subsequently referred to as the Implementation Agreement) which establishes the responsibilities of each Permittee with respect to compliance with the NPDES Stormwater Permits issued by the Regional Boards. The Implementation Agreement also establishes a funding mechanism for the shared costs of the NPDES Stormwater Program based on each municipality's area and resident population and includes a provision that allows newly incorporated cities to become additional parties to the Agreement (**Appendix C**) (see also Plan Financing in Section 3.3).

This agreement, originally entered into in December of 1990, was amended in October of 1993 to include two additional Permittees and formally establish the TAC (**Appendix D**). During the next permit term it will be updated to include the newly incorporated cities of Laguna Woods and Rancho Santa Margarita. The Implementation Agreement will be further evaluated at that time to determine whether any changes are appropriate to the decision making committee structure and if the countywide cost shared formula should form the basis for watershed specific planning and improvement programs.

2.2.3 NPDES Permit Responsibilities

The responsibilities of the Principal Permittee and Permittees are defined within the Implementation Agreement, the NPDES Stormwater permits, or as otherwise identified within separate funding Agreements. The Principal Permittee has no regulatory authority over the Permittees. Each Permittee is responsible for implementing the NPDES Stormwater Program within their jurisdiction.

The role of the Principal Permittee is the same as the other Permittees with the addition of certain overall programmatic responsibilities such as program management, budgeting, developing public education materials, conducting water quality monitoring, developing certain program elements for implementation, report coordination, etc.

2.2.4 NPDES Permit Reporting Requirements

All NPDES submittals are produced under the auspices of the Permittee Committee and the TAC before submission to the Regional Boards. The required submittals can include, but are not limited to, Annual Status Reports (**Appendix B**) which are due on November 15 of each year and any other requirements specified by the Regional Boards pursuant to permit conditions, California Water Code Section 13267 or other regulatory provisions.

2.2.5 Budget

The Principal Permittee is responsible for preparing draft annual budgets for shared program costs, to be approved by the Permittees. In addition, the Principal Permittee tracks shared program cost expenditures and prepares financial reports which are distributed to the Permittees.

2.2.6 Program Representation

The Principal Permittee represents the Permittees on the California Storm Water Quality Task Force, the American Public Works Association (APWA) Water Quality Committee and other stormwater forums. The activities of these organizations are provided to the Permittees on a regular basis.

2.2.7 Planning

In accordance with the Implementation Agreement the Principal Permittee administers and coordinates program planning and development.

2.2.8 Permittees Having Watershed Boundaries Outside Those Covered by Santa Ana and San Diego Region NPDES Permits

Those Permittees in compliance with the NPDES Stormwater Permit shall not be responsible for the portions of their drainage areas that extend to other Regional Board jurisdictions.

2.2.9 Coordination With Other Agencies

Successful implementation of the NPDES Stormwater Program requires cooperation and coordination with other public agencies or organizations within and adjacent to Orange County that have programs or activities that have an impact on stormwater quality.

During the Second Term Permit period, a significant example of such an approach was the joint participation with Riverside, Orange and San Bernardino Counties in the Bight 98' regional monitoring program, which was coordinated by SCCWRP. This represented a collective opportunity for the three Counties to cooperatively participate in an integrated watershed monitoring program and meet a common permit objective (Section 11.3.3).

This coordination on monitoring has further developed into a region-wide monitoring and research cooperative program with the neighboring counties, SCCWRP and the three Regional Boards and will be implemented during the Third Term Permit period (Section 11.3.3).

The Principal Permittee has also been actively involved with Cal Trans and has been attending their quarterly NPDES meetings. This joint participation has allowed for the sharing of information and resources and has provided for a greater understanding of the respective programs and challenges.

The Permittees also anticipate that there may be additional opportunities for cooperative efforts with other stormwater dischargers that may be permitted separately under Phase II of the federal stormwater regulations. These dischargers include federal and state lands, including, but not limited to, military bases, national forest, hospitals, colleges and universities, and highways; utilities and special districts; Native American tribal lands; non-urbanized areas; and agricultural lands.

2.3 New Commitments

The Permittees will implement the following performance commitments to help provide consistency among the programs, define requirements for permit compliance and measure performance.

New Commitments:

- The Permittee Committee shall meet at least six times per reporting year during the next five-year permit term.

- Each Permittee shall maintain a representative and alternate to the Permittee Committee, as designated in writing. Any changes in the representatives shall be conveyed to the Principal Permittee within 60 days.

- Each Permittee shall be represented by either the designated representative or alternate at a minimum of eighty (5) percent of the Permittee Committee meetings each year.

- The Implementation Agreement shall be revised to include the newly incorporated cities of Laguna Woods and Rancho Santa Margarita. Additional changes in program funding and management structure will be reviewed concurrently. This shall be completed by December 2001.

- Coordination and common training shall be investigated with other public agencies that have an impact on stormwater quality, including Cal Trans, sanitation agencies and future Phase II Permittees. Progress will be reported in the Annual Status Reports.

3.0 PLAN DEVELOPMENT

3.1 Introduction

The DAMP sets forth a programmatic countywide approach for urban stormwater by which appropriate and cost effective BMPs are implemented in order to maintain existing water quality within Orange County and address any impacts of urban stormwater quality on the beneficial uses of the receiving waters.

The programmatic approach includes utilizing information obtained from the countywide baseline water quality monitoring program (Section 11.0) and from the additional water quality planning initiatives being conducted in several of the watersheds to determine those with beneficial use impairments attributable to urban stormwater (Section 11.4). Once a water quality problem is identified, the Permittees intend to evaluate the need for additional or new BMPs in order to effectively address the problem through the process outlined in this section. Since the field of stormwater quality is a dynamic one, it is necessary for the Permittees to continue this systematic and iterative process of revising, adding or deleting BMPs as necessary in order to maintain a successful and responsive NPDES Stormwater Program.

3.2 Regulatory Requirements

Federal regulations (40 CFR (d)(2)(iv)) require that drainage area management plans include "a comprehensive planning process....to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and systems, design and engineering methods, and such other provisions which are appropriate."

The regulations further state that "proposed programs may impose controls on a system wide basis, a watershed basis, a jurisdiction basis, or on individual outfalls" and "shall describe priorities for implementing controls".

The regulations thus require the development, implementation and prioritization of BMPs to control the discharge of pollutants to waters of the United States. The vehicle for this BMP implementation is the DAMP, which includes new BMPs and modifications to existing BMPs and other stormwater management program elements to reduce pollutants in the stormwater discharges from industrial, commercial, and residential areas to the maximum extent practicable.

3.3 Plan Development

3.3.1 Approach to Plan Development

This DAMP has been developed to accomplish the objectives summarized in the Executive Summary and in Section 1.3. Overall, the DAMP programs fall into two general categories:

1) The prevention-oriented programs addressed in this DAMP include establishing adequate legal authority to control pollutant discharges (Section 4.0), implementing BMPs as part of routine public agency activities (Section 5.0), conducting an effective public and business education program (Section 6.0), implementing routine non-structural and structural BMPs throughout the county in new developments and significant re-developments (Section 7.0), implementing structural and non-structural on-site BMPs for public works construction projects (Section 8.0), and identifying and eliminating illicit connections and illegal discharges (Section 10.0).

2) The removal-oriented programs include structural BMPs identified through the water quality planning process and site specific special BMPs for new developments necessary pursuant to Section 7.0 and Appendix G of this DAMP. Water quality problems will be identified through the baseline countywide water quality monitoring program and other water quality assessments. Watersheds determined to require additional BMPs will be surveyed for potential retrofitting. Existing flood control, retarding, sediment control, water conservation, recreation, habitat, and greenbelt facilities will be evaluated in terms of their potential for modification to provide water quality benefits and in the context of the water quality planning process. Where retrofitting opportunities are not found, new structural BMPs will be considered, using the principles of MEP.

The water quality planning process, referred to throughout this DAMP is a systematic and detailed evaluation of the impacts of urban stormwater quality on beneficial uses to determine or validate that actual impairments exist that warrant corrective action. The water quality planning initiatives that are currently utilizing this process include the Talbert/Lower Santa Ana River, Newport Bay/San Diego Creek, Aliso Creek watersheds (Section 11.4).

The Permittees intend to continue implementing and refining both prevention and removal oriented programs described above utilizing the selection approach outlined in 3.3.2.

3.3.2 BMP Selection and Implementation

Current BMPs

The Permittees have historically conducted activities that provide an ancillary water quality benefit (street sweeping, catch basin cleaning etc.). During the First and Second Term Permits, the Permittees developed and implemented additional BMPs as a result of the commitments within the 1993 DAMP and to meet the objectives of the NPDES Stormwater Program (Executive summary and Section 1.3). These BMPs collectively provide a significant level of pollutant reduction.

These BMPs are largely continued in the 2000 DAMP and are described in more detail in subsequent sections. In many instances changes have been included to further improve their effectiveness over the Third Permit Term and to increase the Permittee commitment to their implementation.

New BMPs

Although the DAMP provides for the implementation of a successful NPDES Stormwater Program through the BMPs that have been developed and implemented, the Permittees recognize that the field of stormwater quality is highly dynamic and that the BMPs within the DAMP must be revised, deleted or added to in order for the program to remain successful. In addition, water quality problems caused by urban stormwater that are identified either through the water quality monitoring program (Section 11.0) or the water quality planning process may elevate the need for additional or new BMPs to be implemented in order to effectively address the problem.

New candidate BMPs can be prevention or removal oriented and are generally identified from:

- A review of technical literature;
- A review of existing control programs;
- Demonstration or research projects;
- Input from consulting firms and municipalities already involved in control program implementation; or
- Other sources.

New structural BMPs will be selected from candidate BMPs that have been field-tested and evaluated as to their pollutant removal efficiency and cost effectiveness. They will also be planned and located to maximize their cost-effectiveness and protect beneficial uses.

Assessment of BMP Effectiveness

There are generally two accepted methodologies for assessing the performance of the BMP effectiveness: conventional monitoring (such as water quality monitoring) and non-conventional monitoring.

The California Stormwater Best Management Practices (BMP) Handbooks (1993) define "non-conventional monitoring" as the enumeration of some indicator other than water quality data to infer pollution reduction or water quality improvement. Examples cited include surveys of public opinion to demonstrate increasing environmental awareness, monitoring of the amount of used oil being delivered to household hazardous waste collection centers, etc.

An accurate, quantifiable assessment of the cumulative effectiveness of current BMPs is difficult for a variety of reasons that include:

1. Non-structural BMPs began to be implemented prior to the stormwater mandate, meaning no "baseline" monitoring data representative of "pre-BMP" conditions can be identified;

2. The BMPs identified in the DAMP are being implemented incrementally on a countywide basis. Since, to date, no watershed has been uniquely subject to a single BMP, the influence of an individual BMP upon the overall surface water quality cannot be readily determined yet;

3. There is considerable variability in water quality data that complicates any statistical correlation of the data with storm frequency, storm length and intensity, land use, or land management practices. This is even more compounded by storm seasons in recent years that have varied much in their intensity, duration and volume;

4. Many of the BMPs identified in the DAMP are implemented to address the issues associated with a specific land use. However, since the land uses are so blended within the watersheds, it has not proven possible to characterize the effects of those specific BMPs; and

5. Factors other than chemical water quality may be more directly responsible for impairment of beneficial uses, yet all these factors combine in their effects and are difficult to separate one from another.

Assessing the cumulative effect of BMPs employed countywide on the water quality of receiving waterbodies may take a number of years. There are however, a number of programs that are currently contributing to the assessment of individual project BMP performance.

The Permittees will continue to assess and evaluate the data from these and other studies in order to try and determine the overall effectiveness of the implementation of the BMPs on the water quality within Orange County.

3.3.3 Plan Revision

The DAMP will be revised and submitted as the proposed plan for each Report of Waste Discharge. The TAC shall review, and submit to the Permittees for local approval, the DAMP and amendments to the DAMP. The documents will then be submitted to the Regional Boards.

3.3.4 Public Participation

Public participation in the preparation and amendment of the DAMP will be encouraged in accordance with the NPDES Stormwater Permits. In the Third Term Permit period, annual reporting will additionally include those new commitments in Section 3.5.

3.4 Plan Financing

The Permittees report each year on their non-shared expenditures for the previous fiscal year, the budget for the current fiscal year and a description of the source of funds.

3.4.1 Permittee Funding

The cost shared portions of the NPDES Stormwater Program are addressed through mechanisms identified within the NPDES Stormwater Implementation Agreement that was entered into in December 1990 and amended in October 1993 (see also Section 2.2.2 Agreement For Program Implementation and **Appendix C and D**). Individual program implementation costs will be borne separately by each Permittee.

In 1994 the Permittees examined long-term financing options for the NPDES Stormwater Program and concluded that the current level of shared expenditures did not justify the start-up difficulties of a new, single funding mechanism. The Permittees will continue to evaluate funding options.

3.4.2 New Development BMPs

Each developer will finance and implement the construction site controls specified in this plan and will institute the appropriate BMPs (Section 7.0 and **Appendix G**). To the extent that the completed area of new development with non-structural BMPs in place can reasonably be expected to contribute to a water quality problem, identified through the water quality monitoring or water quality planning process (applying the criterion of MEP), the developer may be required to contribute to the implementation of watershed structural BMPs. This could be accomplished by establishing a water quality plan and funding program for each affected watershed.

3.4.3 Watershed Structural BMPs

Financial requirements for the construction, operation and maintenance of watershed structural BMPs (water quality wetlands, biofiltration swales) will continue to be evaluated at a watershed scale on a case by case basis. Appropriate financing programs will be proposed, including consideration of means to assure appropriate participation by land developers, project proponents as well as any other local stakeholders.

Those structural BMPs, which are retrofitted existing structures, will continue to be operated and maintained by the present owners for each new structure. The planning process will include consideration and determination of maintenance responsibility for each new structure.

3.5 New Commitments

The Permittees will implement the following performance commitments to help provide consistency among the programs, define requirements for permit compliance and measure performance.

New Commitments:

- The DAMP shall be revised and submitted as the proposed plan for each Report of Waste Discharge. This shall be completed for the next Report of Waste Discharge.

- The Permittees shall assess the watersheds on a rolling priority basis to evaluate the urban impacts on the water quality and the opportunities to configure or reconfigure channel segments in order to optimize beneficial use attainment. The priority list shall be 1) Talbert/Lower Santa Ana River, Newport and Aliso Creek watersheds, 2) San Juan Creek and Huntington watersheds, 3) Middle Santa Ana River, Coyote Creek and small coastal watersheds. The results of these evaluations shall be reported in the Annual Status Reports.

- The Permittees shall contribute to the revision of the California Stormwater Best Management Practices Handbooks (Municipal, Industrial and Construction) through the California Stormwater Quality Task Force BMP Sub-Committee. Following completion of the manuals, the Permittees will assess candidate BMPs in the Handbooks pursuant to Section 3.3.2 for inclusion in the NPDES Stormwater Program and will report on it in the Annual Reports.

- The Permittees shall assess and evaluate the data from site specific BMPs according to Section 3.3.2 in order to try and determine the overall effectiveness of the BMP on water quality and its applicability within other areas of Orange County. Examples of this include BMP evaluations underway in the Talbert and Aliso Creek watersheds for coliform removal and the Newport watershed for nutrient removal (Appendix N). This shall be reported in the Annual Reports.

- ❖ The Permittees will continue to assess candidate BMPs pursuant to Section 3.3.2 for inclusion in the NPDES Stormwater Program. This shall be reported on in the Annual Status Reports.

4.0 LEGAL AUTHORITY

4.1 Introduction

The NPDES Permits require implementation of a program to reduce pollutants in storm water discharges from commercial, industrial, and residential areas to the "maximum extent practicable." Central to this program is the establishment, by each municipality, of adequate legal authority to regulate the discharge of pollutants to the municipal separate storm sewer.

Local authority to control discharges to the storm drain system significantly pre-dates the NPDES Stormwater Program. By adopting Ordinance 536, the Orange County Board of Supervisors in 1948 instituted an industrial waste discharge permitting program. This ordinance, amended in 1954 by Ordinance 703, regulated disposal of the by-products of industrial processes, except through sanitary sewers, and provided for the issuance of a permit for discharges into storm drains conditional upon the discharge not causing pollution of ground or surface waters. Twenty of the cities in the County adopted similar ordinances and named the County to enforce the ordinance on their behalf. Other cities chose to adopt their own ordinances (which differed greatly), beginning with the City of Fullerton in 1943.

Other local authorities were separately enacted that included controls for specific discharges to the storm drain system. These provisions, which are still in effect, include:

1) The County Solid Waste Management Ordinance (or comparable City ordinances) regulates where solid and liquid wastes, including hazardous and industrial wastes may and may not be deposited or discharged;

2) The Harbor Sanitation Ordinance of Orange County which prohibits discharge of any refuse matter of any description from shore or sea into the "navigable waters of a harbor,"; and

3) The Uniform Fire Code, which has been adopted into the codified ordinances of the County and the cities and prohibits the discharge of any waste liquid containing crude petroleum or its products "into or upon" any drainage canal or ditch, storm drain, sewer, or upon the ground.".

4.2 Regulatory Requirements

Regulations, promulgated by EPA on November 16, 1990 (40 CFR 122.26 (d)(2)(i)), required municipal NPDES Permit applicants to demonstrate that they had adequate legal authority to:

- Control the contribution of pollutants to the municipal storm drain system by stormwater discharges associated with industrial activity;
- Prohibit illicit discharges to the municipal storm drain system;
- Prohibit spills, dumping or disposal of materials other than stormwater;
- Control through interagency agreements amongst the Permittees, the contribution of pollutants from one municipality into the common combined flood control and stormwater conveyance system managed by the Orange County Flood Control District;
- Require compliance with conditions in ordinances; and
- Carry out all inspections, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions, and effectively prohibit illicit discharges to the municipal storm drain system.

The Second Term Permits required the Permittees to certify that they had established adequate legal authority to regulate the discharge of pollutants to the municipal system by July 31, 1997.

4.3 Authority To Control Pollutant Discharges

Although adequate legal authority existed for most potential pollutant discharges at the inception of the stormwater program, the Permittees determined in 1993 that a Model Water Quality Ordinance should be prepared to provide a more uniform Countywide approach and to provide a legal underpinning to the entire NPDES Stormwater Program.

A consultant law firm was retained for this purpose, and the Model Water Quality Ordinance (**Appendix E1**) and accompanying Enforcement Consistency Guide (**Appendix E2**) were prepared under the aegis of the TAC and with input from representative City and County Attorneys, Sanitation Districts of Orange County, the Orange County Building Industry Association (BIA), the Food Sanitation Advisory Council, Western States Petroleum Association (WSPA) and the Permittees.

All of the Permittees adopted the Water Quality Ordinance and corresponding Enforcement Consistency Guide and provided certifications regarding this to the Regional Boards in Fiscal Year 1997-98. In addition, each Permittee has designated the Authorized Inspector(s) responsible for enforcing the Ordinance. The Authorized Inspector is the person designated and persons designated by and under his/her instruction and supervision, who are assigned to investigate compliance with, detect violations of and/or take actions pursuant to the Ordinance.

The detection, elimination and enforcement activities undertaken by the Permittees are described further in Section 10.3. In addition to prohibiting unpermitted discharges, the Water Quality Ordinance also provides for requiring BMPs in new development and significant redevelopment (see Section 7.0).

4.4 New Commitments

The Water Quality Ordinance does not require amendment so no further performance commitments are required. Performance commitments pertaining to the detection, investigation and enforcement under the Water Quality Ordinance are addressed in Section 10.5 and erosion and grading control ordinances are addressed in Section 8.7.

5.0 PUBLIC AGENCY ACTIVITIES

5.1 Introduction

All of the Permittees routinely conduct preventive maintenance activities that are widely recognized as effective BMPs for pollutant control. These activities include litter control, solid waste collection/recycling, drainage facility maintenance, catch basin stenciling, street sweeping, hazardous materials management/environmental performance reporting, household hazardous waste collection, emergency spill response and fertilizer and pesticide management.

These public agency activities will be continued in the Third Term Permit period and, where necessary, improvements or new practices will be implemented to reduce the amount of pollutants entering the storm drain system to the maximum extent practicable. Since the Permittees are committed to reducing the impact of their public agency activities on stormwater quality, model maintenance procedures will be developed. Data on the public agency activities and any program improvements will be reported in the Annual Status Report.

5.2 Regulatory Requirements

The federal regulations specifically require, as part of the DAMP, a description of public agency maintenance activities and schedules for structural controls, practices for operating and maintaining public streets and programs to reduce pollutants from the application of fertilizers and pesticides.

The First Term Permit similarly followed federal requirements and specified that the Permittees continue to implement the existing public agency activities, BMPs and stormwater programs and modify them as necessary to reduce the pollutants in the stormwater discharges.

5.3 Municipal Government Activities

5.3.1 Litter Control

Litter control is an important element in the diversion of trash and other materials from the storm drain system. Although most Permittees historically viewed litter control as a public service program (i.e., preventing visual blight, etc.), rather than as a pollution control problem, they now consider it equally important as a visual indicator of water quality. As such, all Permittees now have the legal authority to control littering in public areas either through the Water Quality Ordinance or existing municipal code sections. Littering on private property is usually treated as a nuisance to be corrected by the property owner after notice of complaint is sent.

The Permittees intend to evaluate the efficiency and cost effectiveness of the available BMPs for litter control on an ongoing basis and continue public education outreach that includes trash and debris control as part of a broader stormwater quality educational effort (Section 6.0).

The Permittees report each year on any changes to their legal authority to control littering, the presence of trash receptacles at key locations throughout their jurisdiction, the allocation of staff to litter and debris control, local support of special clean-up or bulky item pickup events and any other miscellaneous activities such as dog waste clean-up programs or holiday collection days. In the Third Term Permit, annual reporting will also include the litter control commitment in Section 5.4.

5.3.2 Solid Waste Collection/Recycling

The Permittees have solid waste collection programs for public, residential, commercial and industrial areas. The Permittees recognize that the public must be encouraged to properly dispose of their trash and educated that the storm drain is not a waste receptacle. The Permittees conduct public education outreach through a variety of methods including community newsletters, radio and television public service announcements, brochures and utility bill inserts. Many Permittees have combined the recycling, litter control and hazardous materials disposal messages (Section 6.0).

During the First Term Permit, the Permittees reported the solid waste collection data that they were separately required to collate under the requirements of Assembly Bill (AB) 939. Since these reporting requirements have changed, the Permittees no longer provide the specific AB 939 information.

The Permittees report each year on the total quantity of solid waste that is collected within their jurisdiction and the types of public education materials and frequencies in which they were distributed or broadcast.

5.3.3 Drainage Facility and Infrastructure Maintenance

During the First and Second Term Permit periods, the Permittees developed and implemented drainage facility inspection and maintenance procedures and created inspection logsheets in order to document the total volume of material removed from their facilities and the percentages of each type of material. Through their routine inspections, the Permittees also notify the appropriate Authorized Inspectors of any evidence of chemical contamination or suspected illegal discharges (Section 10.0).

The Permittees inspect the drainage system within their jurisdictions routinely and clean out accumulated debris on an as-needed basis. Removal of accumulated debris and sediment is carried out either manually or by mechanical methods using flushing in emergency situations only.

The Permittees have implemented a limited number of drainage system diversions for dry weather flows to the sanitary sewer system at several coastal locations. The systems diverted include Aliso Creek, Laguna Channel, Greenville Banning Channel and Talbert Channel/Lower Santa Ana River.

The Permittees report each year on the total volume of materials/debris removed from drainage facilities, the number of drains and length of channel/pipe cleaned, estimates of the percentage of paper, plastic, vegetation, soil and "other" materials removed from the facilities, and the method of removal and the significant changes that occured to their above ground and below ground (> 39") storm drain systems, outfalls, detention or retention basins or dams. In the Third Term Permit period, annual reporting will additionally include those new commitments in Section 5.4.

5.3.4 Catch Basin Stenciling

The goal of the stenciling program is to label and subsequently maintain labels on over 33,300 stormdrain catch basins located throughout Orange County. Initially the label was comprised of "No Dumping - Drains To Ocean" written in 3" black letters on either the top of the curb or the curb face adjacent to the inlet.

This format was later revised to 3" blue letters on a white background. Each Permittee, however, may implement its own version of the catchbasin stenciling program including variations on the phrase or the method of labeling such as the use of hot/tape decals or thermoplastic plaques.

The Permittees report each year on the number of catch basins re-stenciled, any variations in the stencil and any community support in implementing the stenciling program.

5.3.5 Street Sweeping

All Permittees maintain street sweeping programs in residential, commercial and/or industrial areas. In 1993 the Permittees compiled information regarding their existing street sweeping schedules and practices and subsequently changed elements of their programs such as the types of sweepers purchased, the frequency of sweeping, and the use of parking restrictions in order for the street sweeping program to aid in water quality improvements.

During the Second Term Permit period, the Principal Permittee recommended that the Permittees apply a standard of pollutant control removal effectiveness in the purchase of new street sweeper equipment. This recommendation was based upon a preponderance of research literature suggesting that regenerative air sweepers are superior to vacuum and mechanical broom sweepers in performance. The research is not, however, unequivocal.

The Permittees report each year on the quantity and type of street sweepers that they use, the frequency that they sweep residential, commercial and industrial areas, the volume of material collected and the presence/absence of parking restrictions, performance standards or monitoring. In the Third Term Permit period, annual reporting will additionally include those new commitments in Section 5.4.

5.3.6 Hazardous Materials Management/Environmental Performance Reporting

Prior to 1997, the Permittees annually reviewed their hazardous materials management practices. Specific information was submitted in the annual reports regarding product substitution, structural modifications to storage areas, elimination of hazardous waste streams, installation of a clarifier for site drainage, the use of off-site facilities for vehicle cleaning, employee training, and site audits.

The Second Term Permit required the Permittees to prepare an Environmental Performance Reporting Program (**Appendix M**) and include in subsequent Annual Reports a discussion of the actions taken by the Permittees to eliminate pollutant discharges at public agency facilities. This program was implemented in 1997 and was applied to municipal facilities whose operations include hazardous materials storage, waste storage, and vehicle and equipment maintenance. Permittee facility operators were required to:

1. Determine which operations are the most significant contributors to stormwater pollution; and then to
2. Identify significant issues at each facility and develop and implement action plans to control the discharge of pollutants.

The program is iterative, involving an annual evaluation of municipal facility environmental performance and the implementation of corrective actions until all identified significant issues are addressed. The action plans that have been developed by the Permittees to address the significant issues have demonstrated a commitment by the Permittees to implement both structural and non-structural controls.

The Permittees report each year on the status of the action plans submitted the prior year and any new significant issues and corresponding action plans for the current reporting year. In the Third Term Permit period, annual reporting will additionally include those new commitments in Section 5.4.

5.3.7 Household Hazardous Waste Collection

Orange County has an effective household hazardous waste collection program administered by the Integrated Waste Management Department (IWMD). The program comprises four sites (Anaheim, Huntington Beach, San Juan Capistrano, and Irvine) that operate 5 days per week for a total of 259 days per center (excluding partial or full day closures due to rainy weather).

All Permittees and the County's Health Care Agency currently implement used oil recycling programs. These programs involve comprehensive public outreach including television and newspaper advertising, displays at community events, and the distribution, at no cost to residents, of used oil containers (Section 6.0). In addition, some Permittees also conduct household hazardous round ups or drop off events for their residents.

The permittees report each year on the total amount of hazardous waste collected at the four IWMD household hazardous waste collection sites, the total amount of hazardous waste collected from a specific hazardous waste or used oil roundup conducted by a Permittee within its jurisdiction, and any public education material distributed.

5.3.8 Emergency Spill Response

The Orange County Hazardous Materials Area Plan or a city equivalent has been adopted by most of the Permittees. This Plan is a set of planned responses to hazardous materials emergencies, addressing chain-of-command, public agency participation and allocation of authority.

The Permittees have all enacted the authority to control releases to the storm drain system through a common Water Quality Ordinance and each Permittee has designated the Authorized Inspector(s) responsible for enforcing the Ordinance (see also Section 4.0 and 10.0).

The Permittees report each year on the Authorized Inspector designations as well as the quantities, types and notification source for the water pollution incidents that occurred within their jurisdiction. For follow up enforcement information and reporting see Section 10.3.2.

5.3.9 Fertilizer and Pesticide Management

Careful fertilizer application and management is the most effective means of controlling nutrient loss from landscaped areas. Similarly, careful pesticide management addresses both acute toxicity and chronic exposure concerns associated with all insecticides, rodenticides and herbicides.

During the First Term Permit period, a model plan, entitled "Management Guidelines for Use of Fertilizers and Pesticides," (**Appendix F**) was developed to provide guidelines for application methods for fertilizers and pesticides, surface runoff minimization, accident mitigation and Integrated Pest Management. This model was subsequently implemented by the Permittees.

For both fertilizers and pesticides, the Permittees report each year on the number of acres they were applied to, the management and application practices and the types and quantities applied. The permittees also report on any integrated pesticide management techniques that have been implemented. In the Third Term Permit period, annual reporting will additionally include those new commitments in Section 5.4.

5.4 New Commitments

The Permittees propose the following performance commitments to help provide consistency among the programs, define requirements for permit compliance and measure performance.

New Commitments:

General Program

- The Principal Permittee shall develop and distribute model maintenance procedures for public agency activities (such as street sweeping, catch basin stenciling, drainage facility maintenance) by March 1, 2002. This shall be reported on in the 2002 Annual Status Report.

- The Principal Permittee shall develop and distribute BMP guidance for public agency and contract field operations and maintenance staff to ensure that they are familiar with, understand, and implement appropriate pollution prevention measures, react quickly to contain spills and report illegal discharges to the appropriate responder by July 1, 2002. This shall be reported in the 2002 Annual Status Report

- The Principal Permittee shall provide training to the public agency staff implementing the model maintenance procedures. The training shall be held a minimum of three times during the permit period with the first training to be held prior to June 30, 2002. This information shall be reported in the Annual Status Reports.

- Each Permittee adopting the model maintenance procedures shall be represented at a minimum of two of the training sessions. This information shall be reported in the Annual Status Reports.

- The Principal Permittee shall provide pollution prevention training to public agency and contract field operations staff. The training shall be held a minimum of three times during the permit period. This information shall be reported in the Annual Status Reports.

- Each Permittee shall be represented at a minimum of two of the pollution prevention training sessions. This information shall be reported in the Annual Status Reports.

- ❖ Each Permittee shall document any non-Permittee sponsored workshops, training or educational activities undertaken pursuant to the activities listed within this section. This information shall be reported in the Annual Status Reports.

Litter Control

- ❖ The Principal Permittee shall evaluate the efficiency and cost effectiveness of the available BMPs for litter control based on the update of the BMP Handbooks and data from existing demonstration initiatives and provide a recommendation to the Permittees by July 1, 2003. This shall be reported in the 2003 Annual Status Report.

Drainage Facility Maintenance

- ❖ The Permittees shall inspect 80% of the storm drain inlets and catch basins within their jurisdiction at least once per year with 100% cumulative completion every other year and shall subsequently clean those that meet the criteria developed pursuant to the model maintenance procedure commitment (see General Program commitments). The criteria shall be developed by March 1, 2002 and reported on in the 2002 Annual Status Report. The subsequent cleaning based upon the developed criteria shall commence on July 1, 2002 and reported in the Annual Status Reports.

- ❖ The Permittees shall evaluate the need for additional drainage facility diversions for dry weather flows based on data from the water quality monitoring program and water quality planning process. This information shall be reported in the Annual Status Reports.

- ❖ The Permittees shall provide any significant changes to the above ground and below ground (>39" diameter) storm drain systems, outfalls, detention or retention basins or dams and other controls in a mutually acceptable electronic format for inclusion into the countywide drainage maps on an annual basis.

Street Sweeping

- ❖ The Permittees shall consider pollutant removal effectiveness (including macro and particulate pollutant removal information, which may be obtained from manufacturer specifications, technical documents, etc.) when purchasing street sweeping equipment or contracting for these services. The pollutant removal effectiveness of new municipal equipment acquisitions will, at a minimum, meet the criteria developed pursuant to the model maintenance procedure commitment (see General Program commitments). The criteria shall be developed by March 1, 2002 and shall be reported in the Annual Status Reports.

Hazardous Materials Management/Environmental Performance Reporting

- The Permittees' fixed corporation yard facility managers shall conduct quarterly environmental performance reporting program inspections every year beginning July 1, 2001 and report any new findings in the Annual Status Reports.

- The Permittees shall evaluate applying the environmental performance program to municipal maintenance contracts and leases. The evaluation shall be completed by July 1, 2002 and reported in the 2002 Annual Status Report.

- The Permittees shall evaluate applying the environmental performance reporting program to include municipal or contract field maintenance operations. The evaluation shall be completed by July 1, 2002 and reported in the 2002 Annual Status Report.

- Based on the evaluation results, by the end of the permit term, the Permittees shall verify, through inspections, self certifications, surveys or equally effective approaches that at least 90% of the municipal maintenance contractors and lessors that have been newly established or renewed during the permit period are effectively implementing the environmental performance reporting program. The Permittees shall report the verification approach taken, the number of verifications performed and any actions taken in the Annual Status Reports.

- The Principal Permittee shall provide training on implementing the environmental performance reporting program a minimum of three times during the permit period. The training shall be offered to both key line Permittee staff and public agency contract administration staff. This information shall be reported in the Annual Status Reports.

- The Permittees shall be represented at a minimum of two out of the three environmental performance reporting training sessions. This information shall be reported in the Annual Status Reports.

Fertilizer and Pesticide Management

- The Principal Permittee shall evaluate the Management Guidelines for Use of Fertilizers and Pesticides (**Appendix F**) to determine the need for revision. The overall objectives of the Management Guidelines will continue to be to reduce the use of fertilizers and pesticides and/or utilizing less toxic alternatives where possible. This review shall take into account the nutrient and toxicity findings from the Newport Bay watershed. If an update is required, it shall be completed by July 1, 2002 and reported in the 2002 Annual Status Report.

- The Principal Permittee shall provide sufficient training on the Management Guidelines for Use of Fertilizers and Pesticides as the same may be revised. The Permittees who apply fertilizers and pesticides or contract for these services will attend the training. The training shall be completed by July 1, 2003 and reported in the 2003 Annual Status Report.

6.0 PUBLIC INFORMATION

6.1 Introduction

Public education is an essential part of a BMP program. Developing programs to inform and involve the public can be an effective method for controlling nonpoint source pollution. When a community has a clear idea where the pollution comes from, how it can affect them and what they can do to prevent those affects, it will be more willing to support and participate in program implementation.

6.2 Regulatory Requirements

The federal regulations specifically require, as part of the DAMP, a description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials (Federal Register/Vol. 55, No. 222, p. 48071).

In addition, the regulations also specify education programs for construction site operators and a program to facilitate public reporting of illicit discharges.

The First Term and Second Term Permits similarly followed federal requirements and specified that the Permittees continue to implement the public education efforts already underway, participate in joint outreach efforts to ensure that a consistent message on storm water pollution prevention is brought to the public, encourage the public to report illegal dumpings and develop BMP guidance for the control of those potentially polluting activities not otherwise regulated by any agency.

6.3 Public Information and Education Program

6.3.1 Program Development

The primary goal of the public education program is to inform the community about the origins and causes of stormwater pollution and to constructively involve the public, municipalities, businesses, industries and development community in the NPDES Stormwater Program's objective of controlling pollutants at their source (i.e.: pollution prevention). Achievement of this goal will require development of materials to explain the nature of stormwater pollution and its significant contribution to water quality impairment and to identify and promote behavioral changes that will contribute to controlling pollutants at the source.

During the First and Second Term Permit periods the Principal Permittee, took the lead in developing a regional awareness program and provided the Permittees with copies of educational materials for distribution to the public. The public education program consisted of public, business and household hazardous waste elements. The Permittees were encouraged, but not required, to enhance the information provided with educational efforts more specific to local issues of importance related to water quality.

Public Education

During the First and Second Term Permits, the public education program mainly consisted of: the development and distribution of public service announcements, brochures and other related materials; incorporation of storm water pollution prevention features into community outreach events such as the Orange County Fair; school demonstrations; speaking engagements; monitoring coordination with schools and universities; the development of a 24 hour water pollution problem reporting hotline; and the coordination with other agencies running public information programs such as water districts, sanitation districts, fire departments and community and environmental groups.

Business Education

During the First and Second Term Permits, the business education program mainly consisted of the development and distribution of formal BMP guidance for certain potentially polluting business activities including mobile detailing, pool maintenance activities, automotive service center and restaurant cleaning operations; and outreach to business associations. In 1997-98 and in 1999-00 the Permittees distributed the automotive service center BMP guidance to approximately 120 large auto dealers and 2,000 small to medium businesses, respectively.

Household Hazardous Waste Collection

In addition, the Principal Permittee has an active and effective household hazardous waste collection program. This program is administered by the Orange County Integrated Waste Management Department. The goals of the program are to educate residents about household hazardous materials, influence buying habits to decrease the amount of hazardous materials used, and offer a safe and proper method to dispose of hazardous materials.

The program consists of four fixed collection sites and a Community Awareness Program (CAP). The CAP has made numerous public presentations, by staff and trained volunteers, to schools, civic organizations, and private industries. A "Healthy Home" video and a 24-hour hotline are used to promote program awareness.

In addition, many public information strategies are used to inform the public of the availability of household hazardous materials collection centers. These strategies include fact sheets in utility bills, radio and television public service announcements, and newspaper advertisements.

The Permittees report each year on the public education materials that were additionally developed and/or distributed within their jurisdiction and the events or workshops attended or held to convey the stormwater message. In the Third Term Permit period, annual reporting will additionally include those new commitments in Section 6.4.

6.3.2 Long-Term Strategy and Implementation

In late 1999, the Permittees developed a comprehensive long-term NPDES public and business education strategy (subsequently referred to as the Public Education Program) in order to effectively educate the public and targeted business groups about the effects of stormwater pollution and encourage their participation in the protection of surface waters (**Appendix L**). The Public Education Program includes a comprehensive planning approach and "tool box" of implementable educational elements based upon the desired direction of the program.

While building on the previous public education efforts, the Public Education Program recognizes that the key to a successful, cost-effective, long-term, cohesive, issue-oriented public outreach campaign are: know your audiences, develop messages and outreach activities based on what motivates them; monitor and evaluate success as you go; and redefine messages and target audiences as needed.

The overall program is well-planned, yet flexible so that it can stay responsive to, and reflective of the increasing levels of resident and business owner awareness over the course of the campaign. The merging of similar messages such as proper disposal of household hazardous waste, litter control, recycling, composting, water conservation, etc. will also aid in the public's enhanced awareness of the holistic approach that should be taken when protecting surface waters. The campaign outreach components must be implemented in accordance with a "master timeline" so that they synergistically build upon each other.

The Public Education Program serves as an integral planning tool and presents an overall universal formula for developing and implementing various outreach campaigns. The formula can be applied to multi-year comprehensive outreach programs or a short targeted outreach activities and will be utilized in the following areas:

a) Countywide Public Education Program

This element will address the sources, pathways and impacts of stormwater pollution and provide common-sense BMPs that can be implemented to reduce pollutant discharges.

b) Focus on watershed specific water quality problems

This element will enhance regional information to address specific urban water quality problems within a watershed such as bacteria levels within Aliso Creek and nutrients within the Newport Bay watershed.

c) Focus on particular constituents causing water quality problems countywide

This element will address urban chemicals/materials of concern such as pesticides, fertilizers, automotive fluids, trash and debris, cleaners, solvents, paints, pool chemicals, household hazardous waste, sediment, etc. and will provide BMP guidance for the proper use, clean up and disposal.

d) Focus on business practices or activities causing water quality problems countywide

This element will address targeted businesses of concern such as mobile businesses, gas stations, automotive service centers, restaurants, etc. and will provide BMP guidance for their related business activities.

By applying this strategy and implementing the recommended elements at a macro and focused level, this framework will aid in preventing pollution at its source.

6.4 New Commitments

The Permittees propose the following performance commitments to help provide consistency among the programs, define requirements for permit compliance and measure performance.

New Commitments:

General Program

- A Public Education Committee shall be established by July 1, 2001 to provide oversight and guidance for the implementation of the public education program. The Committee shall assist the Principal Permittee with the review of materials and shall recommend program activities to the Permittee Committee and TAC. The Public Education Committee shall meet a minimum of three times per year

- The Committee members shall attend a minimum of two meetings per year.

- The Permittees shall complete a public awareness survey by December 2001 to determine the effectiveness of the public and business education strategy to date and to provide direction to the overall program education strategy for the Third Term Permit period.

- ❖ The Principal Permittee, with Public Education Committee support, shall, based upon the public awareness survey results, identify the goals and audience, develop a "brand" for the program, prepare a master timeline and determine the educational messages by July 1, 2003. This information shall be reported in the Annual Status Reports.

Countywide Public Education Program

- ❖ Each Permittee shall conduct a mass distribution, through any appropriate media, of stormwater public educational information to their residents each reporting year so that at least 90% of their residents receive the information by the end of the permit term. This information will be reported on in the Annual Status Reports.

- ❖ Each Permittee shall sponsor or staff a stormwater table or booth for at least one community, regional or countywide outreach event (such as a fair, festival or exposition, program or similar event) each reporting year. This information shall be reported in the Annual Status Reports.

- ❖ The Principal Permittee, with Public Education Committee support, shall continue to participate in a minimum of three joint outreach efforts during the permit period to ensure that a unified and consistent message on storm water pollution prevention is brought to the public. The joint outreach efforts may include participation with OC/Environmental Health, OC/Integrated Waste Management Department, Fire Departments and sanitation districts. This information shall be reported in the Annual Status Reports.

Focus On Business Practices Or Activities Causing Water Quality Problems Countywide

- ❖ Each Permittee shall provide stormwater program outreach to all municipal staff at least once per reporting year. Outreach via a flyer, brochure or newsletter may be distributed with paychecks. This information shall be reported in the Annual Status Reports.

- ❖ The Principal Permittee, with Public Education Committee support, shall develop BMP guidance for restaurants, automotive service centers and gasoline stations and provide it to existing industrial facility inspectors (Section 10.3.1) for distribution to the businesses they inspect by July 1, 2002. This shall be reported on in the 2002 Annual Status Report.

- ❖ The Principal Permittee, with Public Education Committee support, shall develop BMP guidance for at least three non-fixed facility businesses during the permit period which may include, but are not limited to, mobile vehicle maintenance, carpet cleaners, commercial landscape maintenance and pavement cutting for utilities. This information shall be reported in the Annual Status Reports.

- ❖ The Principal Permittee, with Public Education Committee support, shall identify any trade associations, groups, newsletters, etc. that are common to the non-fixed facility businesses for which BMP guidance have been developed and evaluate the opportunity for providing speakers, news articles, etc. so that the industries may be targeted as a whole for additional educational efforts. This information shall be reported in the Annual Status Reports.

7.0 NEW DEVELOPMENT/SIGNIFICANT REDEVELOPMENT

7.1 Regulatory Requirements

The federal regulations specify that drainage area management plans include "a description of planning procedures including a comprehensive master plan to develop, implement, and enforce controls to reduce the discharge of pollutants...from areas of new development and significant redevelopment."

The Regional Boards have identified that the need for individual stormwater quality management plans to apply equally to private and public works projects. Transportation corridors, schools, parks, flood control projects and other public facilities are thus subject to the same requirements as planned communities and mini-malls.

Although there is a provision in State regulations that school districts must obtain municipal approval for "improvements which affect drainage", the Government Code effectively prevents city/county regulation of schools, sanitation, and water districts. The First and Second Term Permits, however, identify these entities as potential dischargers of stormwater to the Orange County drainage area and the expectation is that these entities will work cooperatively with the Permittees to manage urban stormwater runoff. These entities include: Caltrans, universities and colleges, Metropolitan Water District, Department of Defense, school districts, sanitation districts, water districts, and railroads. In the Third Permit Term, regulation of a number of these entities is expected under Phase II of the Federal stormwater regulations.

7.2 Program Development

These regulatory requirements necessitated the development of a program to ensure that storm water quality management is considered during a project's planning phase, implemented during construction, and ultimately maintained for the life of the project.

In 1993, the New Development/Construction Task Force comprising representatives from the Principal Permittee, Building Industry Association (BIA), Association of General Contractors (AGC) and Civil Engineers & Land Surveyors of California (CELSOC), completed a report that provides the basis for requiring the incorporation of structural and non-structural Best Management Practices (BMPs) into new development and significant redevelopment. The report, entitled "Best Management Practices For New Development Including Nonresidential Construction Projects (1-5 acres)" (**Appendix G**), involved additional contributions on specific BMPs from the Western States Petroleum Association (WSPA), Food Sanitation Advisory Council (FSAC), and Orange County's sanitary districts.

In 1997 the Permittees certified that they were implementing **Appendix G**. Since that time, the Permittees and development industry have gained considerable experience in implementing hundreds of Water Quality Management Plans (WQMPs) countywide. **Appendix G** contains the following elements:

- Each new private development and significant redevelopment is required to implement appropriate "routine" non-structural BMPs in keeping with the size and type of development, to minimize the introduction of pollutants into the drainage system (i.e. educational materials, landscape management, spill contingency plans, litter control, employee training, street sweeping).

- Each new private development and significant redevelopment is required to implement appropriate "routine" structural BMPs in keeping with the size and type of development.

"Routine" structural BMP's are economical, practicable, small scale-measures, which can be feasibly applied at the smallest unit of development, using standard plans developed by the New Developments Task Force. Routine structural BMP's may function either to minimize the introduction of pollutants into the drainage system or to remove pollutants from the drainage system and are intended to address drainage water quality impacts inherent in development, and need not be related to any identified water quality problem (i.e. filtration, efficient irrigation, landscape design, car wash racks, trash container areas, motor fuel concrete dispensing areas and canopies, catch basin stenciling, water quality inlets).

- "Special" structural BMPs are to be installed in new development and significant redevelopment to address specific water quality problems identified in the water quality monitoring program or the water quality planning process. This requirement may be addressed by providing an on-site "special" structural BMP, or by contributing to the implementation of a structural BMP specified within a watershed plan.

"Special" structural BMP's are engineered facilities designed to address specific pollutant problems identified in the water quality planning process, runoff management plan, CEQA process, or similar watershed planning. However, it is not the intent of this program to restrict city or county planning commissions or their governing bodies from imposing additional stormwater management requirements as a condition of development (i.e. water quality ponds, dry/wet basins).

- Each new private development or significant redevelopment is required to prepare a WQMP specifying the "routine" structural and non-structural BMPs (and any "special" BMPs) that will be used on site for approval by the Permittee with jurisdiction over the site (single family residences may be exempted from this requirement – see **Appendix G**).

- Each private grading permit applicant with a development greater than five (5) acres is required to provide proof of coverage under Construction Permit

- Each private commercial or industrial project 1-5 acres is required to have special construction notes on the building plans and grading plans

Tables 1 and 2 of **Appendix G** provide a listing of the "routine" site specific structural and non-structural BMPs for new developments including residential, industrial, retail/office centers, restaurants/warehouses/grocery, fuel dispensing areas and vehicle repair/maintenance facilities.

Commencing in 99/00 the Permittees report on the number of WQMPs approved within their jurisdiction, the total acreage covered by the approved WQMPs, the total number of each structural and non-structural control implemented, a summary of any "special" BMPs required and any limitations in providing the information. They also report on any special education initiatives held for developers or contractors to promote awareness of stormwater quality issues and requirements. In the Third Term Permit period, annual reporting will additionally include those new commitments in Section 7.4.

7.3 Program Implementation

The Permittees have developed and implemented an effective and flexible program for new development and significant redevelopment that allows focus to be placed on constituents of concern identified through the monitoring program and water quality planning process.

During the Third Term Permit period, the Permittees intend to further refine the program through the following actions:

- The Permittees are contributing financially to the revision of the California BMP Handbooks;
- Based upon the iterative process described in Section 3.3.2, The New Development/Construction Task Force will be re-established to evaluate the need to revise **Appendix G;**
- The New Development/Construction Task Force group will include additional stakeholders in the evaluation/revision process, beyond those previously involved;
- The Permittees will rescind the requirement for Structural Requirement S11 from the list of "routine" structural BMPs since it is inconsistent with the Best Management Practice Guide for Retail Gasoline Outlets that was produced statewide with Regional Board, municipal and industry input in March 1997 and make other conforming changes between **Appendix G** and the updated BMP Handbooks; and

- The Permittees recognize the importance of a verification element to ensure that the approved structural and non-structural BMPs within the submitted and certified WQMPs are being implemented on an ongoing basis. As such, the Permittees shall verify 90% of the developments with approved WQMPs implemented within their jurisdiction by the end of the permit term to determine if post construction BMPs are implemented and properly maintained through inspections, self certifications, surveys or equally effective approaches.

The verification shall be based on either the total area of approved WQMP projects or the total number of WQMPs approved. Thus, by the end of the five year permit term all projects with WQMPs will have been verified and any notices of non-compliance issued.

7.4 New Commitments

The Permittees propose the following performance commitments to help provide consistency among the programs, define requirements for permit compliance and measure performance.

New Commitments:

❖ The Permittees shall evaluate their current New Development/Significant Redevelopment Program (**Appendix G**) and develop a revised program by November 15, 2002 based upon consideration of the following:

- The current New Development/Significant Redevelopment Program (**Appendix G**) and the available results of the implementation review (7.3);
- The SUSMP requirements in Los Angeles and Ventura counties;
- The Start At The Source design and planning approach utilized in the San Francisco Bay Area; and
- The inclusion of more specificity in non-structural and structural routine BMPs including design criteria/standard plans for some BMPs.

❖ The New Development and Construction Task Force shall be re-established to evaluate the need to revise the routine structural and non-structural BMPs included in **Appendix G**. This shall be completed by November 15, 2002 and reported in the 2002 Annual Status Report.

❖ The Principal Permittee shall develop an education/training program for developers and contractors based on any revisions made to **Appendix G** by the New Development and Construction Task Force.

- By the end of the permit term, the Permittees shall verify, through inspections, self certifications, surveys or equally effective approaches that at least 90% of the developments with approved Water Quality Management Plans within their jurisdiction that have ongoing non-public agency requirements have implemented and are properly maintaining the specified post construction BMPs. The verification threshold of 90% shall be based on either the total area of approved WQMP projects per year or the total number of WQMPs approved. The Permittees shall report the verification approach taken, the number and land area of the verifications performed and any actions taken to enforce BMP implementation and maintenance in the Annual Status Reports.

- The Principal Permittee shall provide training to the Permittees implementing **Appendix G** on revisions made by the New Development and Construction Task Force. The training shall be held a minimum of three times during the permit period. This information shall be reported in the Annual Status Reports.

- Each Permittee shall be represented at a minimum of two of the training sessions on **Appendix G**. This information shall be reported in the Annual Status Reports.

- The Permittees shall, in addition to requiring that developers provide proof of NOI for the General Construction Permit where the development is greater than five (5) acres, communicate to the developer that their Stormwater Pollution Prevention Plan (SWPPP) should be completed and onsite before any activity commences. This shall be reported on in the Annual Status Reports.

- Each Permittee shall document any non-permittee sponsored workshops, training or educational activities undertaken pursuant to the activities listed within this section. This information shall be reported in the Annual Status Reports.

8.0 CONSTRUCTION

8.1 Introduction

Concern over construction sites as a major source of sediment and other pollutants is addressed in the federal regulations, which require a description of a program to implement and maintain structural and nonstructural BMPs to reduce pollutants in storm water runoff from construction sites.

Such a program is to include procedures for site planning that incorporate consideration of potential water-quality impacts; requirements for nonstructural and structural BMPs; procedures for identifying priorities for inspecting sites and enforcing control measures that consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality; and appropriate educational and training measures.

In addition to sediment, activities and materials used on construction sites may be a source of pollutants such as paints, lacquers, and primers; herbicides and pesticides; landscaping and soil stabilization residues; soaps and detergents; wood preservatives; equipment fuels, lubricants, coolants, and hydraulic fluids; and cleaning solvents.

These pollutants can leak from heavy equipment, be spilled, or can be eroded by rain from exposed stockpiles. Once released, they may adsorb onto sediment particles and can be transported into the aquatic environment, where they may become available to enter aquatic food chains, cause fish toxicity problems, contribute to algal blooms, impair recreational uses, and degrade drinking water sources.

Sediment controls for construction activity directly impacting a watercourse should address sediment transport issues in the watercourse so that the natural quantity of sediment is not significantly changed. Contaminated sediment must be prevented from reaching the watercourse.

8.2 Regulatory Requirements

The First Term Permits stated that ... "industrial/commercial construction operations that result in a disturbance of one acre or more of total land area...and residential construction sites that result in the disturbance of five acres or more...shall be required to develop and implement BMPs to control erosion and siltation and contaminated runoff from the construction sites."

In 1999, the State General Construction Activity Stormwater Permit (subsequently referred to as the Construction Permit) (SWRCB Order No. 99-08 DWQ, NPDES General Permit No. CAS000002) was re-issued. Construction activities disturbing five acres or more of land are required to comply with this permit.

In an April 2, 1992 ruling by the U.S. District Ninth Circuit Court of Appeal, the Court invalidated the exemption granted by EPA for construction activity on less than five (5) acres, and remanded to EPA for further action. In late 1999, EPA issued Phase II of the federal stormwater regulations, which lowers the threshold for construction activities that need to obtain coverage from 5 acres to 1 acre. The Construction Permit may be re-opened, or the State may issue a new permit, as necessary, to accommodate this change to the site size for construction activity.

Although the Regional Boards administer and enforce the Construction Permit, in many cases, violations of the Construction Permit may also result in a violation of the Permittees' Water Quality Ordinance (Section 4.0). When this occurs, the Permittees are expected to coordinate enforcement under their Water Quality Ordinance with the Regional Board. This cooperation and coordinated effort between the Permittees and Regional Board is essential to efficiently implement the stormwater regulations for industries at the State and local level.

8.3. Public Works Construction Practices

All public works construction contracts administered by the Permittees are governed by "Standard Specifications for Public Works Construction" (subsequently referred to as the Green Book). Green Book Section 7 - "Responsibilities of the Contractor" imposes specific construction practices, which are included within **Appendix H** as Best Management Practices for public works construction. In general, the Green Book requires the Contractor has to keep informed of, and at all times observe and comply with state and federal laws and county and municipal ordinances and regulations.

The Green Book requires contractors, among other things, to: keep equipment in good working condition (i.e. no fluid leaks) and insure that equipment and facilities meet requirements of ordinances and laws; keep the work site clean and free from rubbish and debris; use a street sweeper to keep paved areas clean; clear the work site of equipment and unused materials; prevent spillage on haul routes, immediately remove spillage and clean the area; remove excavated material from catch basins or similar structures; comply with air pollution regulations; provide sanitation and control wastewater; provide water pollution, mud, and silt control to protect channels, storm drains, and bodies of water; and maintain drainage within and through the work site.

Certain public works construction contracts administered by the Permittees may include Special Provisions as required by the Permittees and approved municipal sediment control Standard Plans. Applicable Special Provisions and Standard Plans are hereby included as Best Management Practices for public works construction.

In addition, as a result of the Second Term Permits, if the Permittees have construction projects that may result in the land disturbance of five (5) acres or more, the following requirements apply:

- Although the Permittees do not pay fees, they must notify the Executive Officer of the Regional Board when the construction project is proposed by submitting an NOI or similar form;
- The Permittees shall develop a stormwater pollution prevention plan (SWPPP) and monitoring program (consistent with the requirements of the current Construction Permit) prior to the commencement of any construction activities. The SWPPP will be kept on site;
- The Permittees shall give advance notice to the Executive Officer of the Regional Board of any planned changes in the construction activity which may result in non-compliance with the current Construction Permit;
- The Permittees must notify the Executive Officer of the Regional Board when the construction project is completed by submitting a Notice of Termination or similar form; and
- All other terms and conditions of the current Construction Permit shall be applicable.

8.4 Permittee Oversight of Private Construction Practices

The Permittees enforce grading codes on private construction practices designed to protect slopes from erosion and failure. These codes are also designed to protect watercourses and adjacent property from the effects of eroded soil or blowing dust. These codes will be evaluated and revised as needed in the Third Term Permit period to ensure consistency with other regulatory documents such as the Construction Permit and local Water Quality Ordinance. The Permittees also require certain provisions for applicants to provide proof of coverage under the General Construction Permit as well as the inclusion of special construction notes on building and grading plans (Section 7.2 and **Appendix G).**

Grading, construction and building inspectors ensure compliance with local grading codes as part of their present jobs. Inspection program elements specifically addressing stormwater pollution include:

- Inspection at the beginning of construction to verify that required nonstructural or structural stormwater pollution control measures are in place;
- Inspection during storm events; and
- Inspection shortly before notice of termination is filed.

8.5 Newport Bay/San Diego Creek Sediment Control Programs

The Permittees have established programs and practices to control sediment and related pollutants through both source control (erosion control) and treatment control measures (sediment control) at construction sites. A special focus exists in the Newport Bay/San Diego Creek watershed due to its impaired status due to excess sediment (Section 12.0).

8.6 Program Development

The problem of construction site erosion and sediment loss has long been recognized by the Permittees. Consequently Permittee grading ordinances and codes, the Green Book, and Public Works construction specifications already contain requirements for construction practices for erosion and sediment control.

The First Term Permits required changes in grading practices to recognize sediment balance concepts, control of regulated materials used on the job site, and control of sediments polluted by contaminants. The control of stormwater pollution associated with construction is handled through the existing grading, building permit, and public works contracting process.

During the First Term Permit period the Best Management Practices For Public Works Construction report was developed and incorporated as part of the DAMP (**Appendix H**). This Appendix applies to Permittee public works construction projects and requires that such activities will implement non-structural and structural BMPs to control contaminated stormwater run-off.

At a minimum BMP selection for public works projects shall be consistent with the Construction Permit and Green Book standards for site maintenance and environmental protection. In 1997 the Permittees certified to the Regional Boards that the **Appendix H** guidelines or their equivalent were being implemented.

Commencing in 99/00 the Permittees report on the number of grading and building permits issued, the number of construction site greater than five acres, the number of inspections conducted and the number of citations issued as well as any limitations in their ability to provide the information. In the Third Term Permit period, annual reporting will additionally include those new commitments in Section 8.7.

8.7 New Commitments

The Permittees propose the following performance commitments to help provide consistency among the programs, define requirements for permit compliance and measure performance.

New Commitments:

- The Permittees shall review their current grading/erosion control ordinances for consistency with related regulatory documents such as the State General Construction Permit and Permittee Water Quality Ordinance to determine the need for the development of model ordinance language that may be utilized by Permittees whose ordinances require modification. This review shall also consider the authority allowed by the State under the Building Code for the Permittees for make such changes. This shall be completed by July 1, 2002 and reported in the 2002 Annual Status Report.

- The New Development and Construction Task Force shall be re-established to evaluate the need to revise **Appendix H**, the grading and erosion control ordinances, if determined necessary by the Permittees, and special construction site issues in the Newport Bay/San Diego Creek watershed. This shall be completed by July 1, 2002 and reported in the 2002 Annual Status Report.

- The Principal Permittee shall develop and implement an education/training program for developers and contractors based on any revisions made to **Appendix H** by the New Development and Construction Task Force. A minimum of three training sessions shall be conducted during the permit term. This information shall be reported in the Annual Status Reports.

- Each Permittee shall be represented at a minimum of two of the training sessions on **Appendix H**. This information shall be reported in the Annual Status Reports.

- Each Permittee shall document any non-permittee sponsored workshops, training or educational activities undertaken pursuant to the activities listed within this section. This information shall be reported in the Annual Status Reports.

9.0 INDUSTRIAL DISCHARGER IDENTIFICATION

9.1 Introduction

During the First Term Permit, the objective of the Industrial Discharger Identification element are to identify industrial stormwater dischargers in Orange County and to notify them of State industrial stormwater permitting requirements. This element provided coordination between the Permittees and industrial dischargers so that industries may comply with the separate requirements of the local NPDES and Statewide General Industrial (SWRCB Order No. 97-03 DWQ, NPDES General Permit No. CAS000001, subsequently referred to as the Industrial Permit) and General Construction Permits.

9.2 Regulatory Requirements

Code of Federal Regulations Part 40 Section 122.26 (a) (4) requires industrial stormwater dischargers to notify operators of municipal storm drain systems receiving industrial stormwater discharges.

The First Term Permits included a finding that industrial dischargers were required to cooperate with the Permittees and were required to obtain individual industrial stormwater discharge permits from the Regional Boards. However, regulations issued after these permits required industries to apply for coverage under the Industrial Permit rather than separately under the Regional Boards.

Although the Regional Boards administer and enforce the Industrial and Construction Permit, in many cases, discharges in violation of the Industrial and Construction Permit may also be a violation of the Permittees' Water Quality Ordinance. When this occurs, the Permittees coordinate enforcement under their Water Quality Ordinance with the Regional Board. The Second Term Permit included a finding that a cooperative and coordinated effort between the Permittees and Regional Board is essential to efficiently implement the stormwater regulations for industries at the State and local level.

9.3 Program Implementation

In 1992 a central database was developed which consolidated the 40 CFR 122.26 (a) (4) notifications, current NPDES permit holders and industries whose Standard Industrial Classification (SIC) codes were identified by the State Water Resources Control Board as requiring coverage under the Industrial Permit. The database provided the basis for a single notification to all the identified industrial facilities informing the facilities' staff of the existence of the NPDES stormwater program and possible industrial permit application requirements.

This early program commitment was completed in 1992 by the Principal Permittee with the distribution of educational flyers to more than 10,000 potentially-affected industrial businesses in Orange County. More than 7,000 flyers were also sent to construction-related businesses in Orange County to notify them of the obligations under the General Construction Permit **(Appendix I)**.

Subsequently, in 1997-98 and in 1999-00 the Principal Permittee distributed additional guidance for the cleaning of automotive service centers to over 2,100 businesses which included some industrial facilities subject to the Industrial Permit (Section 6.3.1).

Within **Appendix G**, the Permittees established a requirement that applicants for grading permits > 5 acres provide proof of coverage under the Construction Permit. A similar mechanism does not currently exist for the Industrial Permit due to lack of a common permitting trigger.

Commencing in 99/00 the Permittees report on their ability to identify new businesses by SIC code or any limitations in being able to establish a mechanism that would allow them to do this. In the Third Term Permit period, annual reporting will additionally include those new commitments in Section 9.4.

9.4 New Commitments

The Permittees propose the following performance commitments to help provide consistency among the programs, define requirements for permit compliance and measure performance.

New Commitments:

- The Permittees shall conduct an evaluation to determine the best method of establishing a mechanism(s) for providing educational and General Industrial Permit materials to businesses within their jurisdiction. This shall be completed by July 1, 2003 and reported in the 2002/03 Annual Status Report.

10.0 DETECTION/ELIMINATION OF ILLEGAL DISCHARGES AND ILLICIT CONNECTIONS

10.1 Introduction

Illegal discharges and illicit connections can be sources of contamination within municipality stormwater drainage systems.

An illegal discharge is any intentional discharge to a municipal separate storm sewer that is not composed entirely of stormwater and that is not covered by an NPDES permit. An illegal discharge refers to the disposal of non-stormwater materials such as paint or waste oil into the storm drain or the discharge of waste streams containing pollutants to the storm drain.

An illicit connection to the storm drain system is an undocumented and/or unpermitted physical connection from a facility to the storm drain system. The First Term Permit required the Permittees to undertake programs to identify and eliminate illicit connections to the storm drain system. The Permittees developed a facility inspection and documentation program to identify such connections however; almost none were identified during the multi-year effort.

An effective program to reduce or eliminate these types of discharges and connections needs to inform the public of the detrimental effects of illegal discharges on water quality, have a process for detecting and eliminating illicit connections and have a program to respond to, investigate and clean up illegal discharges.

10.2 Regulatory Requirements

The First Term Permit required a facility inspection and documentation program to identify illegal discharges and illicit connections to the storm drain systems. The permit also included requirements for ordinances prohibiting illegal drainage entries and improper disposal and the development of an implementation plan for prosecuting violators and eliminating illegal discharges.

The permits also required the Permittees to certify the completion of the reconnaissance of the storm drain system by February 28, 1997 and, in instances where illicit connections are detected, a schedule be provided for their elimination.

10.3 Detection/Elimination of Illegal Discharges

10.3.1 Detection

The Permittees have a number of programs that have facilitated the detection of sources of illegal discharges. These programs include industrial facility inspection, drainage facility inspection, water quality monitoring, and the wide distribution of public education materials that provide phone numbers and encourage the reporting of spills.

Industrial Facility Inspection

A number of public agencies routinely conduct inspections of industrial facilities in Orange County. These agencies and their areas of responsibility include the following:

- The Orange County Health Care Agency regulates the storage and disposal of hazardous wastes. Approximately 6,339 businesses are inspected annually to ensure proper waste management.

- The Fire Departments in Orange County regulate the storage of hazardous materials through disclosure ordinances such as OCC Sec 4-3-200-300 and Article 80 of the Fire Code. This regulation involves inspection at approximately 7,000 business.

- Agricultural chemicals, notably pesticides, are regulated by the Agriculture Commissioner through the State Agriculture Code (CCR Title 3, Sec. 6000 et seq.). The Commissioner's office performs facility inspections at about 200 facilities/year out of a total of approximately 700 facilities that use/store pesticides. The Commissioners office also initiates enforcement action for non-compliance.

- Discharges to the sanitary sewers are mostly regulated by the Orange County Sanitation District and the Aliso Water Management Agency/South East Regional Reclamation Authority who routinely conduct pre-treatment facility inspections.

Routine coordination with staff of these inspection programs occurs through the Orange County Hazardous Materials Strike Force and the Stormwater Awareness training developed presented by the Principal Permittee. These coordination efforts ensure that the staff of these inspection programs is cognizant of stormwater issues and regularly notify the Principal Permittee of situations that may present a source of water pollution. In the Third Term Permit period, annual reporting will additionally include those new commitments in Section 10.5.

Drainage Facility Inspection

Through routine maintenance activities within the municipal storm drain system, Permittee field personnel continue to report suspected problems and/or discharges to the system (Section 5.3.3).

Countywide Reconnaissance Monitoring

During the First Term Permit and part of the Second Term Permit the Permittees conducted field screening/reconnaissance every year which included conducting a site investigation and chemical analyses once during dry weather and once during storm events. While the primary objective of this component of the water quality monitoring program was to detect gross contamination from illegal discharges through field analyses minimal incidences were detected.

New monitoring program objectives set in the Second Term Permit prompted a re-evaluation of the monitoring program starting in 1997. In May 1999, a final report outlining a new monitoring program that addressed the requirements of this permit was submitted to the Regional Boards (**Appendix K**) and the program was implemented.

The reconnaissance and source identification section of the new water quality monitoring program addresses the need to determine if an identified water quality problem is the result of an illicit connection or illegal discharge through a series of source identification studies. If problems are found they are referred to the Permittees' Authorized Inspectors.

Water Pollution Problem Reporting

The public reporting of spills is facilitated by a listing of:

- Permittee business telephone numbers in materials produced and distributed by the NPDES Stormwater Program's public education activities (brochures and magnets).
- The 24 hour water pollution problem reporting hotline and corresponding e-mail address in materials produced and distributed by the NPDES Stormwater Program's public education activities
- The Principal Permittee's water pollution telephone number in the Orange County "white page" telephone directories

10.3.2 Elimination

Investigations

Investigations of water pollution incidents are routinely undertaken by Permittee Authorized Inspector staff and various fire and police departments. Although investigations may be unilateral efforts, more serious incidents are typically coordinated with federal, state, and local agencies through the Orange County Hazardous Materials Strike Force. The Strike Force is headed by the Orange County District Attorney's Office and includes representatives of a wide variety of local, regional, and state agencies.

In addition, the Permittees also coordinate with Regional Board staff on an ongoing basis with a particular focus on facilities regulated by an NPDES permit.

Enforcement

Enforcement activities are undertaken according to the Water Quality Ordinance and accompanying Enforcement Consistency Guide (Section 4.0 and **Appendix E1 and E2**). Water pollution cases may be handled administratively or in more serious instances, have been prepared for prosecution by the Orange County District Attorney who may prosecute under the applicable sections of the Water Quality Ordinance, State Fish and Game Code, State Water Code, Uniform Fire Code, and Penal Code that address pollutant discharges.

The Permittees have formerly designated the staff responsible for carrying out the enforcement services according to the Enforcement Consistency Guide and update these designations every year in the Annual Status Report. The Permittees will continue to have responsibility for water pollution enforcement within their jurisdiction unless that authority has been designated to the Orange County Flood Control District.

Commencing in 99/00 the Permittees report on the quantities and types of enforcement actions that were taken, the number of repeat violators and the incremental enforcement actions and information regarding current or settled prosecutions. In the Third Term Permit period, annual reporting will additionally include those new commitments in Section 10.5.

10.4 Detection/Elimination of Illicit Connections

10.4.1 Detection/Elimination

The Second Term Permit required the Permittees to certify the completion of the reconnaissance of the storm drain system by February 28, 1997, and, in instances where illicit connections are detected, a schedule be provided for their elimination (Section 10.2). The Reconnaissance Survey Report of February, 1997, reported finding two illicit connections countywide and inspection of drainage facilities is now conducted as part of routine maintenance (**Appendix J**).

Any illicit connection identified during routine inspections is investigated by the affected Permittee. Appropriate actions are then taken to approve undocumented connections by permit procedure and/or pursue removal of those connections that are determined to be illicit connections and not permissible.

Commencing in 99/00 the Permittees report on the number of illicit connections found within their jurisdiction, the type of connection and the resulting actions that were taken to permit or remove it.

10.4.2 Enforcement

Compliance with established regulations on obtaining encroachment permits before installation of drains is enforced. Owners of existing drains without appropriate permits are notified to comply. For those drains where the owner is unresponsive or cannot be identified, each Permittee is responsible for deciding whether to formally accept the connection as part of their public drainage system or cap it off.

10.5 New Commitments

The Permittees propose the following performance commitments to help provide consistency among the programs, define requirements for permit compliance and measure performance.

New Commitments:

- The Principal Permittee shall provide stormwater quality awareness training to the staff of existing industrial inspection programs a minimum of three times during the permit period. The training will include information regarding the BMP guidance developed for restaurants, automotive service centers and gasoline stations per Section 5.0. This shall be reported in the Annual Status Reports.

- ❖ Authorized Inspectors shall meet three (3) times per year to coordinate investigations, enforcement and training issues within Orange County. This shall be initiated by July 1, 2001 and shall be reported in the Annual Status Reports.

- ❖ Each Permittee shall send an Authorized Inspector to two of the three meetings annually. This shall be reported in the Annual Status Reports.

- ❖ The Permittees shall develop recommendations and guidelines for establishing and implementing the criminal citation program provision of the water quality ordinances by July 1, 2002.

- ❖ The Principal Permittee shall develop and distribute an electronic database for water pollution incident reporting and tracking to the Permittees Authorized Inspectors by July 1, 2002. This shall be reported in the Annual Status Reports.

- ❖ The Permittees, shall, in coordination with the major sewering agencies within Orange County, review and revise, as necessary, the procedures and practices for sewage spill response with the goal of reducing the impacts of sewage releases on receiving waters. Where necessary, written changes may be incorporated into operating procedures or spill response plans and/or cooperative agreements may be developed. Progress shall be reported in the Annual Status Reports.

- ❖ Each Permittee shall document any non-Permittee sponsored workshops, training or educational activities undertaken pursuant to the activities listed within this section. This information shall be reported in the Annual Status Reports.

11.0 WATER QUALITY MONITORING PROGRAM

11.1 Introduction

In response to the First Term Permits, the Permittees developed and implemented a water quality monitoring program (1993 DAMP Appendix K) to aid in the detection and control of illicit connections and illegal discharges to the municipal storm drain systems and to meet other program performance objectives. The monitoring program focused on estimating pollutant loads in urban stormwater runoff, tracked compliance with water quality objectives, searched for source of pollutants and addressed impacts on areas of special concern.

In response to the Second Term Permits, the Permittees conducted a two year re-evaluation and revision of the water quality monitoring program in order to re-focus the efforts to determine the role, if any, of urban stormwater discharges to the impairment of beneficial uses and to provide technical information to support an effective urban stormwater management program to reduce the beneficial use impairments determined to be associated with urban stormwater (**Appendix K**).

The Permittees also initiated several water quality planning efforts, conducted additional water quality evaluations in response to technical requests from the Regional Boards and participated in various regional research and/or monitoring programs. The combination of these efforts will aid the Permittees in determining the extent and degree of the relationship between urban stormwater runoff and impairment of beneficial uses within the aquatic resources of Orange County.

11.2 Regulatory Requirements

Federal regulations require operators of municipal storm sewers to develop a "proposed monitoring program for representative data collection for the term of the permit that describes the location of outfalls or field screening points to be sampled (or the location of instream stations), why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment."

The objectives of the initial water quality monitoring program as stated in the First Term Permit were:

- To define the type, magnitude and sources of pollutants in the storm water system discharges within each Permittees respective jurisdiction so that appropriate pollution prevention and correction measures can be identified;
- To evaluate the effectiveness of pollution prevention and correction measures; and
- To evaluate the compliance with water quality objectives established for the storm water system or its components.

The objectives for a revised monitoring program as stated in the Second Term Permit were to:

- Develop and support an effective municipal nonpoint source control program;
- Define water quality status, trends, and pollutants of concern associated with municipal stormwater discharges;
- Characterize pollutants associated with municipal stormwater discharges and to assess the influence of urban land uses on water quality and beneficial uses of receiving waters;
- Identify significant water quality problems related to urban stormwater discharges;
- Identify other sources of pollutants in stormwater runoff to the maximum extent possible (e.g. atmospheric deposition, contaminated sediments, other nonpoint sources, etc.);
- Identify and prohibit illicit discharges;
- Identify those waters, which without additional action to control pollution from urban stormwater discharges cannot reasonably be expected to attain or maintain applicable water quality standards required to sustain the beneficial uses in the Basin Plan;
- Evaluate the effectiveness of existing municipal stormwater quality management programs, including an estimate of pollutant reductions achieved by the structural and nonstructural BMPs implemented by the permittees; and
- Evaluate costs and benefits of proposed municipal stormwater quality control programs to the stakeholders including the public.

The main theme underlying the objectives specified by the Regional Boards was maintaining the integrity of receiving waters and their ability to sustain beneficial uses identified in the Water Quality Control Plan (subsequently referred to as the Basin Plan). This parallels the Permittees' long-standing concern with the management of environmental resources. For example, many of the monitoring stations have been sampled since the mid-1970s, and there are many past instances of cooperation with other agencies regarding specific environmental problems and/or areas of concern.

Thus, while the Permittees view compliance with the terms of their stormwater permits as of paramount importance, there is also an underlying role of governmental stewardship for key environmental resources that are highly valued by residents of Orange County. This revised monitoring plan strives to link permit compliance with this larger set of management issues.

11.3 Program Development

11.3.1 Pre-NPDES Water Quality Monitoring

From 1973 to 1990, the Principal Permittee conducted routine water quality monitoring on drainage facilities which are tributary to water bodies identified as waters of the state by the Regional Boards. The receiving waters were also monitored routinely to assess the chronic effects on established beneficial uses.

When the monitoring program was initiated in 1973, monthly nutrient and trace element sampling was performed at several locations. Sediment samples were collected semiannually to assess the impact of contaminant deposition and adsorption. Additional constituents such as mercury, selenium, DDT, PCBs and radioactivity were also evaluated on a semiannual basis to address public concerns regarding the pollution threat from these constituents.

11.3.2 First Term Permit Water Quality Monitoring

In order to bring the pre-NPDES water quality monitoring program into conformance with the 1990 federal NPDES regulations and the First Term Permit objectives (Section 11.2), field screening to detect gross contamination was added to the program and the number of sampling sites in the channels and receiving waters were increased in order to better assess the amount and type of contamination in the storm drain system.

The First Term Permit water quality monitoring program consisted of field screening (channels only); dry-weather and storm sampling and a receiving water program:

- Field screening was used to detect gross contamination, which may be indicative of illegal disposal of pollutants. Monitoring locations were sited on channels which have drainage areas greater than one square mile or which have industrial (manufacturing) land uses in the drainage areas. Reports exhibiting elevated concentrations of field-screening constituents were referred for follow-up pollution investigation, but this occurrence was rare or non-existent in most waterbodies;

- Data from dry-weather and storm sampling was used to estimate the total annual volume of contaminants discharged by each monitored channel. These monitoring locations were in channels which were identified in the First Term Permits as "Waters of the State" or in major tributaries to "Waters of the State". Storm monitoring of channels was also used to evaluate the level of contamination during and after storm events;

- The receiving water monitoring program included stations in the Huntington Harbor; Sunset, Anaheim, and Bolsa Bays; Upper and Lower Newport Bays; and Dana Point Harbor. These stations were monitored during and subsequent to storms for the same contaminants as in the channel monitoring program. In the channel and receiving water monitoring programs, semiannual sampling of bed sediment were also conducted to determine the chronic effects of storm water runoff.

11.3.3 Second Term Permit Water Quality Monitoring

While the First Term Permit monitoring program produced useful information, the Permittees recognized (as has the rest of the nation) the high degree of uncertainty regarding the link between urban stormwater runoff and actual impairment of beneficial uses within the aquatic resources of Orange County.

Therefore, in response to the Second Term Permit objectives (Section 11.2) , the Permittees started conducting a systematic re-evaluation of the water quality monitoring program which led to a re-statement of the monitoring program's primary goals. The primary and parallel goals of the monitoring program were re-stated as:

- To determine the role, if any, of urban stormwater discharges in the impairment of beneficial uses; and
- To provide technical information to support effective urban stormwater management program actions to reduce the beneficial use impairment determined to be associated with urban stormwater

In order to organize the vast array of monitoring activities needed to carry out the objectives and goals, the Permittees identified three separate key elements within the Final Monitoring Program (**Appendix K**). These three key elements are:

- A focus on known sites (or “warm spots”) where constituents are substantially above system-wide averages;
- A parallel (and somewhat overlapping) focus on areas of critical aquatic concern (herein referred to as “critical aquatic resources” or “CARs”); and
- A countywide reconnaissance program to identify specific sources of contamination from sub-watershed areas as well as specific land use investigations in order to evaluate the effectiveness of a variety of BMPs

The monitoring program includes an underlying rationale for each monitoring element, a discussion of how monitoring data will be used in decision-making, identification of potential links to other relevant monitoring programs being carried out by other agencies, a description of the basic monitoring design, identification of additional study design steps, and a description of anticipated monitoring activities.

These monitoring elements include many locations from the pre-NPDES and First Term Permit water quality monitoring programs that were of value because of the length of their historical record. Each key element of the Final Monitoring Program contains a description of the monitoring activities that are proposed to accomplish the objectives described above, as well as a description of the process for making decisions about how the monitoring program will respond to incoming data over time. This process can be used at any time throughout the life of the monitoring program to re-evaluate the direction of the program, or to reassess the appropriate allocation of resources within the program.

Since the vast majority of the CARs in Orange County are in marine or estuarine habitats, the Permittees participated in the Southern California Bight 1998 Regional Monitoring Project (Bight'98) regional monitoring program (coordinated by SCCWRP) to obtain meaningful information on the ecological effects of stormwater discharges. The Bight 98' program was a continuation of the successful cooperative regional-scale monitoring begun in southern California in 1994 and built upon the previous successes and expanded on the 1994 survey by including more participants, sampling more habitats, and measuring more parameters.

Monitoring in Orange County included a coastal microbiological assessment, monitoring in the Lower Newport Bay, Dana Point Harbor and Huntington Harbor; and monitoring of the impacts of the Santa Ana River and Aliso Creek.

This coordination on monitoring has further developed into a region-wide monitoring and research cooperative program with the neighboring counties, SCCWRP and the three Regional Boards and will be implemented during the Third Term Permit period

The Final Monitoring Program and subsequent elements utilize a five year timeline (1998/99 - 2002/03) for addressing the goals/objectives associated with each task. This timeline is reflective of the dynamic nature of the monitoring program and the fact that many of the objectives will require a substantial investment of resources before they are finalized. The program will form the basis for monitoring during the first three years of the Third Term Permit period.

In the Third Term Permit period, annual reporting will additionally include those new commitments in Section 11.5.

11.4 Water Quality Planning Initiatives

During the Second Term Permit period, the Permittees initiated several water quality planning efforts. These priority water quality planning initiatives are intended to identify and better understand site-specific urban water quality problems in Newport Bay/San Diego Creek Watershed (nutrients), Aliso Creek (bacteria) and Talbert/Lower Santa Ana River (bacteria).

11.4.1 Newport Bay/San Diego Creek Watershed

Newport Bay and certain sections of San Diego Creek have been listed as impaired for the presence of excess levels of fecal coliform, sediment and nutrients as well as toxicity to organisms.

The development of Total Maximum Daily Loads (TMDLs) allocations pursuant to Section 303(d) of the Clean Water Act has imposed additional requirements on the Newport Permittees (The County, Orange County Flood Control District and the cities of Costa Mesa, Irvine, Lake Forest, Laguna Hills, Laguna Woods, Newport Beach, Orange, Santa Ana and Tustin) which include significant additional requirements on these Permittees for monitoring and program development. These issues are addressed in their entirety in Section 12.0.

11.4.2 Talbert/Lower Santa Ana River Watershed

Elevated bacteria indicator levels in the surfzone off Huntington State Beach in 1999 were attributed, in part, to the storm drain system of the Talbert/Lower Santa Ana River Watershed. In response to a Section 13267 letter from the Regional Board, the Talbert/Lower Santa Ana River Watershed Permittees (The County, Orange County Flood Control District, and the cities of Costa Mesa, Fountain Valley, Huntington Beach, Newport Beach and Santa Ana) committed to conducting monitoring investigations and research studies in conjunction with the University of California Irvine and the National Water Research Institute. These studies have been initiated by these Permittees and subsequently expanded to include watershed-scale monitoring and investigations, including extensive dispersion monitoring in the surfzone.

The studies are anticipated to be completed during the renewal process for the Third Term Permit and surfzone fecal coliform impacts attributable to urban sources will be addressed through a revision of current BMPs pursuant to the water quality planning process. As part of an early action plan, all storm drain and pump station discharges in this watershed have been temporarily diverted during the summer months.

11.4.3 Aliso Creek Watershed

The lower mile of Aliso Creek has been listed as impaired for the presence of elevated levels of fecal coliform. Pursuant to a 205(j) grant the County initiated a water quality planning study to compliment ongoing watershed restoration efforts being conducted by the Corps of Engineers in conjunction with watershed cities and special districts.

One of the results of the study was the identification of elevated fecal coliform levels at many points along Aliso Creek and in its tributaries. One storm drain (identified as J03P02) exhibited higher fecal coliform levels than the rest and was issued a Clean Up Abatement Order by the Regional Board pursuant to violations of the NPDES Stormwater Permit. The Order, as one action, assigns additional monitoring requirements to the J03P02 Permittees (The County, Orange County Flood Control District, and City of Laguna Niguel).

The Corps of Engineers Feasibility studies and the 205(j) water quality planning study are anticipated to be completed during the renewal process for the Third Term Permit and will provide the first comprehensive restoration plan for an entire watershed in Orange County with subsequent project implementation over a multi-year period.

As an early action, the flows from Lower Aliso Creek and J03P02 have been temporarily diverted during the summer months to the sanitary sewer.

Commencing in 99/00 the Permittees report on additional technical information requests or special studies that they have been involved with such as the collection of data/information for 13267 letters or clean up and abatement orders.

11.5 New Commitments

The Permittees propose the following performance commitments to help provide consistency among the programs, define requirements for permit compliance and measure performance.

New Commitments:

- The Permittees shall revise the water quality monitoring program and associated timelines annually. These changes may be due to necessary timeline adjustments, newly identified water quality problems or information gained through experience or the research/monitoring programs. The revisions shall be discussed in the Annual Status Reports.

- The Permittees shall participate in future Southern California Bight Regional Monitoring Programs. This shall be reported in the Annual Status Report.

- The Permittees shall participate in the Southern California Stormwater Monitoring/Research Cooperative Program. The key focus of the program is to develop the methodologies and assessment tools to more effectively understand urban municipal stormwater and non-stormwater impacts to receiving waters. This shall be reported in the Annual Status Reports.

- The Permittees shall re-evaluate and revise the elements of the water quality monitoring program in 2003. The revised program shall be submitted with the 2003 Annual Status Report.

12.0 NEWPORT BAY WATERSHED

12.1 Introduction

The Newport Bay watershed has been the focus of local efforts to improve water quality and restore Bay habitat since the late 1970's. Early efforts were initiated under the planning authority of CWA Section 208 to reduce the impacts of excessive sediment on the Bay through the development and implementation of areawide plans (Section 12.3).

Other water quality problems were subsequently identified including an over-abundance of algae attributable to excess nutrients from San Diego Creek, sanitary quality associated with contact recreation and shellfish harvesting, aquatic life toxicity to organisms and excessive bioaccumulation of toxic substances in fish tissues. Based on these identified problems, the Santa Ana Board listed Newport Bay and portions of San Diego Creek as impaired on the CWA 303(d) list.

The Newport Watershed Permittees (comprising all or portions of the County of Orange, the Orange County Flood Control District and the cities of Costa Mesa, Irvine, Laguna Hills, Laguna Woods, Lake Forest, Newport Beach, Orange, Santa Ana and Tustin) have, to different degrees, participated since the late 1970's in cooperative actions with other agency stakeholders and the principal landowner to study and implement solutions to the problems in Newport Bay. A watershed Executive Committee was formed in the mid 1980's comprising representatives from the Newport Watershed Permittees and other stakeholders in order to focus the watershed decision making. This Committee initially had responsibility for sediment control issues and has subsequently broadened its membership and focus to include other water quality and watershed restoration issues.

The commitment of the Executive Committee to solving problems in the Newport Bay watershed lead to the initiation in the late 1990's of planning level reconnaissance and feasibility studies in both the Bay and watershed with the Corps of Engineers. These studies have shown a federal interest in restoring the Bay and watershed and are expected to result in multiple projects over the next permit term that will result in improved habitat and water quality.

Complementary studies have also been undertaken with funding from the California Coastal Conservancy, EPA and the Permittees to further refine the understanding of sediment processes, toxicity sources, nutrient load allocations, and human health risks associated with fecal coliform levels in Newport Bay. These studies, along with others planned, will influence the projects implemented out of the Corps process and represent a significant part of the watershed strategy to address water quality problems and meet TMDL load reduction targets.

12.2 Regulatory Requirements

Section 303(d)(1)(A) of the CWA requires that "Each State shall identify those waters within its boundaries for which effluent limitations…are not stringent enough to implement any water quality standard applicable to such waters." The CWA also requires states to establish a priority ranking for waters on the 303(d) list of impaired waters and establish TMDLs for such waters. As part of the 1996 303(d) list submittal the Santa Ana Board identified the Newport Bay watershed as a high priority for TMDL development and began work on the TMDLs in 1996.

The elements of a TMDL are described in 40 CFR 130.2 and 130.7 and section 303(d) of the CWA, as well as in EPA guidance. A TMDL is defined as "a written, quantitative plan and analysis for attaining and maintaining water quality standards in all seasons for a specific waterbody and pollutant" (40 CFR 130.2, Federal Register July 13, 2000). It is the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background such that the capacity of the waterbody to assimilate pollutant loadings is not exceeded. A TMDL is also required to be developed with seasonal variations and include a margin of safety to address uncertainty in the analysis.

The Santa Ana Board has adopted TMDLs for sediment, nutrients and fecal coliform as amendments to its Water Quality Control Plan attributing in each case part of the load allocation to urban areas. Following state ratification of the amendments, the Santa Ana Board issued requests for monitoring and technical reports to the Newport Watershed Permittees pursuant to its authority under Section 13267 of the State Water Code. In the case of the nutrient TMDL the Santa Ana Board cited the terms of the NPDES Stormwater Permit as the basis of enforcement of the request.

12.3 Sediment Control Programs

The Newport Watershed Permittees, like the Permittees countywide, have established programs and practices to control sediment and related pollutants through both source control (erosion control) and treatment control measures (sediment control) at construction sites. In addition, special programs have been initiated with other stakeholders in the San Diego Creek watershed to control sediment from other sources and to trap the excessive sediment loads.

12.3.1 Grading and Erosion Control Codes

The Permittees enforce strict grading codes designed to protect slopes from erosion and failure. These codes are also designed to protect watercourses and adjacent property from the effects of eroded soil or blowing dust. These codes will be evaluated and revised as needed in the Third Term permit to ensure consistency with other regulatory documents such as the Construction Permit and local Water Quality Ordinances and to address special construction site issues in the Newport Bay/San Diego Creek watershed. This revision is addressed by the existing commitment in section 8.7.

12.3.2 "208" Program

The 208 Areawide Waste Treatment Management Plan, mandated by Section 208 of the Clean Water Act of 1972, was prepared by the Southern California Association of Governments (SCAG), eight participating local agencies, and the Los Angeles, Santa Ana, and San Diego Regional Water Quality Control Boards. The 208 Plan was adopted in 1979 as a management plan for nonpoint source waste and associated water quality degradation.

The Plan addressed nonpoint sources of waste associated with urban, agricultural and construction activities. Agriculture and construction activities were identified as significant sources of sediment to the Upper Newport Bay through direct rainfall and drainage across such lands and established drainage channels. As part of the 208 Plan, the Water Quality Action Plan gives priority to the restoration and protection of the Newport Bay.

Implementation of the Action Plan has involved land management practices to reduce sediment at its source (channel stabilization, agricultural and construction site BMPs) structural controls to localize sediment deposition and facilitate its removal (channel, bay and foothill basins).

12.3.3 Agricultural Erosion and Sediment Control

The Agricultural Best Management Practices (AgBMP) Program is an element of the 208 program intended to reduce the rate of sedimentation in Newport Bay using erosion control measures within the agricultural areas of the Newport Bay/San Diego Creek Watershed. The Principal Permittee ensures the voluntary implementation of erosion control measures by the major landowner, The Irvine Company (TIC), and lessees.

The program was first defined in a Memorandum of Agreement (MOA), of June 1983, between the Principal Permittee and the Regional Board. The MOA obliges the Principal Permittee to request landowners in the unincorporated areas of the watershed to develop and implement Resources Conservation Plans and submit tri-annual reports detailing the status of AgBMP implementation. Since inception of the AgBMP Program, the Riverside-Corona Resource Conservation District has provided technical assistance in program implementation.

As result of this program, soil and water conservation programs are now in effect on agricultural land throughout the Newport Bay/San Diego Creek Watershed.

12.3.4 Urban Sediment TMDL Allocations

The sediment TMDL establishes 10 year load allocation targets for urban areas of 2,500 tons per year to Newport Bay and 2,500 tons per year to San Diego Creek. Sediment load allocation studies conducted (Preliminary Sediment Load Allocation Analysis for San Diego Creek and Newport Bay, Tetra Tech October 1999 and Hydraulic/Sediment Analysis for San Diego Creek Watershed, Tetra Tech, July 2000) indicate a need to focus on construction sites (see commitment in 12.3.1 and 8.7) and identify the difficulty of controlling sediment by land type given the presence of channel erosion as a significant contributor to sediment loads. Continued progress towards TMDL targets will therefore most effectively be achieved on a watershed basis and the comprehensive study approach underway with the Corps of Engineers will form the basis of identifying future implementation projects.

12.4 Nutrient Control Programs

The nutrient TMDL establishes targets for reducing the annual loading of nitrogen and phosphorus to Newport Bay by 50% and meeting the numeric and narrative water quality objectives by 2012. To achieve these targets, the TMDL establishes a number of interim targets requiring a 30% and 50% reduction in nutrients in summer flows by 2002 and 2007, respectively, and a 50% reduction in non-storm winter flows by 2012.

The nutrient TMDL identifies five principal sources of nutrients that are assigned waste load and load allocations:

- Nurseries
- Silverado Constructors ETC
- Urban runoff
- Agricultural discharges
- Undefined sources

The Newport Watershed Permittees have evaluated compliance with the TMDL targets (Newport Bay Watershed Urban TMDL Compliance Evaluation, Tetra Tech, July 2000, **Appendix N).** The report indicates significant compliance with the 2002 targets and slight nutrient loads in excess of the future targets. It is concluded that current programs are working and that further minor program revisions will achieve all TMDL targets.

12.5 Fecal Coliform Control Programs

The fecal coliform TMDL establishes a long-term objective of meeting recreational contact and shellfish harvesting standards in Newport Bay. The Newport Watershed Permittees are currently supporting studies, modeling and monitoring in the Bay with other stakeholders that are expected to result in the development of an implementation plan. No urban area control programs are anticipated until the completion of the current study period although increased public and business education will be implemented in conjunction with the commitments in Section 6.4.

12.6 Toxicity Control Programs

The toxicity TMDL for the watershed is currently being developed, which will address a variety of toxicity and bioaccumulation problems resulting from current and past practices. The Newport Watershed Permittees are currently supporting studies and monitoring in the watershed with other stakeholders that are expected to result in the development of an appropriate TMDL. No urban area control programs are anticipated until the completion of the current period of TMDL development although early public and business education will be implemented in conjunction with the commitments in Section 6.4.

12.7 New Commitments

The Newport Watershed Permittees propose the following performance commitments to help provide consistency among the programs, define requirements for permit compliance and measure performance.

New Commitments:

- The Newport Watershed Permittees shall evaluate and implement where appropriate the suggested BMPs contained in **Appendix N** for nutrient reductions in the Newport Bay watershed.